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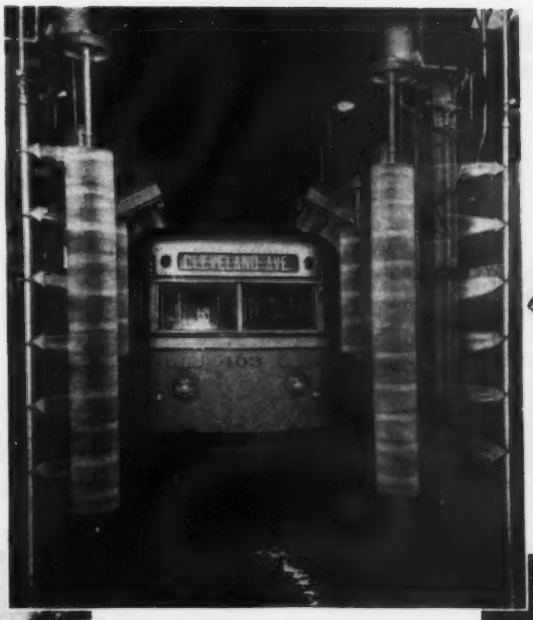

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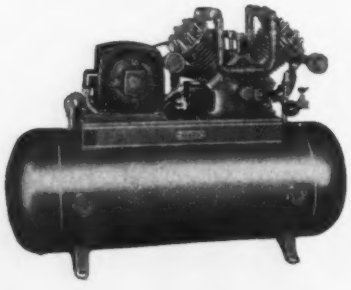

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TRAINING FOR VICTORY

By A. C. FULLER, *President*

THE conquest of ignorance, which is true education, is man's greatest and most noble task. That too little serious thought and intelligent action has been devoted to the human engineering phase of this conquest is borne out by the long history of human discord, bungling and bloodshed. Never was the lack of knowledge of the workings of the human mechanism more apparent than during the present struggle for power between nations, economic groups and narrowly selfish men.

Realizing the need to increase the skills which first made Connecticut products famous throughout the world, the Association sought for many years prior to World War II the expansion of adequate training in the industrial arts both through trade schools and in industry. During the dismal days of unemployment just preceding the war, it further cooperated with the Unemployment Commission in the creation of Job Training, later known as the Connecticut Plan, which formed the pattern for many of today's war training courses.

Since the onset of the war, the Association has assisted every training agency, both federal and state, either with one or both of the following: (1) Originating courses; (2) Promotion of courses in Connecticut trade schools, Junior colleges and in industrial establishments. Likewise it is working closely with the War Council through its Manpower and Manufacturer's Committees to overcome the manpower problem, at least partially, through the promotion of training for both supervision and rank-and-file employees.

Someone has aptly said "It took the compulsion of a war for our very existence as a nation to awaken us to our glaring educational defects". The truth of that statement is readily observed for never before have so many people been trained in the arts of production and supervision so rapidly as during the past twenty months. The miracles of production, yet to be fully measured, are the already visible tributes to the value of industrial arts training in all its varied phases.

Imbued with the knowledge that still greater miracles of production are needed to win the present fight for the right to build a better civilization at home and abroad, the Association through its publication, CONNECTICUT INDUSTRY, seeks to strengthen the efforts of the Governor, the War Council and Training Agencies by presenting articles, pictures and testimonials which tell the how, why and where of the chief training tools needed by more industries to accomplish the desired results. With most of the production facilities of the state falling within the No. 1 critical area zones, and hence losing orders to other sections of the country, efficient training of more manpower may be labeled as "critically urgent". Likewise, there is no management activity which offers greater opportunity to advance the interest of employees and at the same time increase production than to promote upgrading of workers through a well-rounded training program.

In the "Training Section" of this issue are four articles, a picture story and nine testimonials which tell about the chief types of training and their value to some of the leading industries in nine different centers of the state. It is to be hoped for the good of the state and its respective communities that a careful reading of the "Training Section" will stimulate more of the right type of training in the right places—all to speed the day of victory and to implement the most fruitful peace of all time.

TODAY'S PROBLEM OF WAGE INCENTIVES*

By JOHN W. NICKERSON, *Director*, Management Consultant Division War Production Board

WITH the diminishing supply of new workers and the continued loss of present employees to the armed services, industry must make further utilization of the existing labor supply if it is to meet high war production quotas. Because war production quotas for 1944 will be higher than for 1943, individual productive efforts must reach or surpass the present accepted standards. To reach this goal, experience shows that a properly designed and operated wage incentive plan, mutually agreed upon, is a powerful factor in helping to attain the necessary increase.

The subject of incentives is a complex one—so broad, indeed, that industrial engineers will differ in relation to it, as will individual managements and individuals within the same management, and international unions from their own locals. This being the case, it is obvious that agreement is difficult to secure, except in the broadest and most innocuous way, among government agents whose past experience has been varied—some in management, some in labor, and some as students; and that it would be preposterous to consider what might emerge as an average consensus, to put it forth, that is, as a "plan" to be inflicted on American management and labor.

What follows should, therefore, be considered not as representing the position of government or of the War Production Board, but as personal conclusions drawn by the writer from many years' experience in industrial engineering, labor relations, and plant management, plus experience in the Management Consultant Division of WPB during the past year and a half. The subject of industrial incentives, it should be remembered, is not a static but an actively dynamic thing; it applies to man's contribution to the nation's economy with all the varying and changing motives occurring in human consciousness. Just as the conclusions of years ago do not apply today, so too today's thought may be improved tomorrow.

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JOHN W. NICKERSON is former superintendent of the Cheney Brothers plants, Manchester. As director of the Management Consultant Division of the War Production Board, he represents management and collaborates with the Labor Production Office in settling potential industrial disputes which threaten to delay the production of war equipment. Further stipulations are that the Division "shall study and recommend means of increasing plant production through improving management practices in dealing with labor on such matters as wage incentive plans, production standards and the like.

Background of Wage Incentive Plans

A glance at the history of wage incentive plans is nevertheless rewarding. Wages have always been considered remuneration for services performed. The ultimate object of these services is, in ordinary peace time, the production of some article of civilian use or consumption; at present, of course, it is largely the production of articles of war. It has also always been true that the phrase "services performed" has included the condition of being present on the job available for duty.

Earlier in the industrial era what is ordinarily known as day work was the prevalent method of wage payment. Although this system took care of presence on the job, it left unsettled the question of what constituted a fair day's work. With increased need for more production and lower costs, together with the willingness of many workers to produce and their desire for remuneration for extra ability and effort, there came, toward the beginning of the present century, an increase in the use of contract work or piece work.

Frederick W. Taylor in 1895 came

forward with a theory of high wages and low labor cost in a wage incentive plan he proposed to the American Society of Mechanical Engineers. His early outlined methods for measuring a "fair day's work" caused him to be called the father of what became known as Scientific Management. Taylor was soon followed by other engineers who proposed various combinations of the two fundamental elements of wage payment; that is, payment per unit of time and payment per unit of production. Henry L. Gannt, for example, over twenty-five years prior to the time when a foundation was placed under wages by the Fair Labor Standards Act, provided for a guaranteed hourly wage regardless of production plus a bonus for a specified task.

There have been developed, of course, many forms of non-financial incentives, such as recreational facilities, cafeterias, the publishing of quotas and performance, and so on. There are also various financial incentives, which include quality bonuses, foreman's bonus, profit sharing, and so on. All these are important. Here, however, we consider primarily the financial wage incentive plans for the purpose of increasing production.

In establishing such wage incentive plans two things are included: first, the method of determining the base, or standard, or 100% production; and, second, the amount of payment which will be made for production below, at, and above the base. The base has sometimes been established by guess, sometimes from past records of performance, and sometimes by carefully worked-out time study backed up by a fundamental engineering research into methods, material, and equipment. Whatever the means of setting up the base production, they are an important factor in determining the type of incentive which may be chosen.

Wage payments may vary from ordinary day work or payment per unit of time to straight piece work or payment per unit of production. In the first instance, the employer takes all the gains or losses, and in the second instance the employee takes the gains or losses. Between these extremes there have been many plans whereby the employer and employees share the gains and losses. In earlier days, it must be remembered, the employee was entirely unprotected on straight piece work when conditions were bad; since the advent of the Fair Labor Standards Act there has been a guaranteed wage below which no employee may be paid. Ordinarily the payment of incentive wages begins at the accomplishment of the base or 100% production. Sometimes, however, in order to secure an early accomplishment, payment may begin at a point of less production. Many times, also, the rate of payment is not in direct proportion to the rate of increase in production; in some cases management may prefer straight day work, in some cases straight piece work or proportionate pay. It is equally true that at times labor prefers day work or no incentive and at times straight piece work. This being the case, it becomes clear that there may be circumstances in which, for local reasons, both parties may agree on a plan which is somewhere between these extremes.

ONE ANSWER to bringing employees and management into closer agreement over such matters as wage incentive plans is the Labor-Management Committee, initiated by Donald Nelson early in 1942 as an important cog in the War Production Drive machinery. Typical of the successful Labor-Management Committees, which now number upward to 2800 throughout the nation, is this group at Bridgeport Brass where one of the first Labor-Management Committees was organized.

Government Agency Recommendations

Prior to Pearl Harbor the government had little interest in wage incentives in private industry except through its efforts to work out by mediation difficulties which arose in their use. The work of the Textile Work Assignment Board is a case in point.

The general textile strike in 1934 was largely based on what was termed by the unions a stretch-out, or an alleged attempt on the part of some mills to ask too large work assignments. A Textile Work Assignment Board, of which the writer was an employer member, was appointed by the Federal Government and studied the problem for about six months. The results clearly indicated that measurements of work assignment or corresponding wage incentives must be worked out locally; broadly planned standards and methods to cover varying conditions could be entirely unjust and inappropriate.

Although the proposals of this Board for a permanent industry-wide Board of Mediation and Arbitration were never approved, the following statements are of interest as the recommendations of a government agency:

1. The work assignment is not merely a specification of the facilities for doing work—machines, equipment, and work places. Work assignment is a quantitative statement of the results desired of the worker; that is, the actual amount of work required or expected to be

(Continued on page 44)

SUPPLEMENTARY FEEDING PROBLEMS

By MARGARET S. CHANEY, Chairman of the Nutrition in Industry Committee of the Connecticut War Council, Connecticut College, New London, and ELIZABETH C. NICKERSON, *Director and Nutritionist*, Bureau of Public Health Instruction, State Department of Health, Hartford.

FIFTH IN A SERIES on war-time food problems to appear in CONNECTICUT INDUSTRY, this article discusses the importance of the industrial worker's daily diet and offers suggestions on how management can influence a greater consumption of the BASIC SEVEN FOODS as an aid to better health and greater war production efficiency.

ALL evidence points to the fact that the health of its workers is of primary importance to management. Everything possible must be done to keep the men and women fit and on the job, for production demands are constant and insistent. This relentless global war dictates that workers must keep up their pace in order that the endless stream of war materials may continue unabated.

Nutrition is Fundamental

Fortunately, industrial leaders have seen the wisdom of safeguarding the health of their workers. It is common practice in many plants to require pre-employment physical examinations as a means of detecting disease and as an aid in proper placement. Likewise medical departments are carrying on programs which aim to keep their workers in good health. Industrial nurses are employed in many plants to do educational work along the line of healthy living and daily hygiene. Protection against occupational diseases has been for many years an outstanding accomplishment of industry. Through the cooperation of the Industrial Hygiene Bureau of the Connecticut State Department of Health. health hazards have been minimized. This has necessitated some drastic changes in industrial processes, reduction or elimination of poisonous gases and chemicals, and improvements in ventilation systems so as to remove dangerous fumes and dusts.

Within the last few years it has been widely recognized that nutrition occupies an important place in the industrial health program. Perhaps even today there are industrialists who do not consider the food of their workers their responsibility, but such people are in the minority. Those who keep abreast with the times realize that nutrition is a vital part of their positive health campaign. They know that an adequate daily diet plays a significant role in the stamina and endurance of the workers and in their sustained good health.

Of course it is recognized that management should not carry the entire responsibility for the food the worker eats, any more than it does for certain phases of his health. In the home, at least one and usually two meals are served and in many cases the third meal is packed to be carried to work.

IN PLANTS that do not have the facilities for serving complete meals, education concerning the packed lunch is particularly important. Industrial concerns in this category will find it sound practice to investigate the possibilities of providing one hot dish or beverage to supplement the lunch brought from home.

But even so, indirectly, the management may influence the food intake and the food habits of its employees; how this may be done will be discussed later.

The Well Planned Diet

What foods are required daily to maintain good nutrition is not a matter of guesswork. Scientific research has given definite evidence of the need for the following nutrients:—protein, or nitrogenous foods; calcium; iron; vitamin A; thiamin or vitamin B_1; ascorbic acid or vitamin C; riboflavin; and niacin. Other minerals and vitamins are known to play a part in good nutrition but they are of less practical concern. Interpreting these nutritional factors into plain food for the day, the BASIC SEVEN foods will supply all the essentials. Thus the diet should include each day: *green and yellow vegetables*, some raw, some cooked, frozen or canned; *oranges, tomatoes, grapefruit*, or raw cabbage or salad greens; *potatoes and other vegetables and fruits* raw, dried, cooked, frozen or canned; *milk and milk products* fluid, evaporated, dried milk, or cheese; *meat, poultry, fish or eggs* or dried beans, peas, nuts, or peanut butter; *bread, flour, and cereals*, natural whole grain, or enriched or restored; and *butter or fortified margarine* (with added vitamin A).

This list of "must foods" should be called to the attention of all workers. Education by the medical personnel, the nutritionist, and the dietitian should so impress upon the worker the urgency of a proper diet that he may be relied upon to pass on this information to the person in charge of his home meals. This nutrition material may reach the home both by word of mouth and by printed matter. The Nutrition in Industry Committee is distributing nutrition articles for use monthly in house organs and it will, on request, supply information on how to secure nutrition leaflets, posters, and the like.

In-Plant Feeding

Now let us consider the meal or meals the worker eats at the plant. In those concerns where a complete meal

is made available, the plant management should see to it that the planning and preparation of the food is under the supervision of a competent, trained dietitian who has an appreciation of the workers' nutritional needs. It is her business to make sure that the BASIC SEVEN FOODS are well represented. She will see, too, that meals are colorful since colorless meals not only make no appeal but contain fewer of the vital food stuffs. When possible the wise management will make plans to provide a complete meal at a reduced price and to stimulate the worker to buy it rather than to choose hit and miss from the cafeteria counter. The latter plan is apt to result in a meal which is far from adequate. Breakfast as well as the other meals should be planned as a complete unit. Well selected and well prepared complete or tray meals are a boon to both management and worker, since the planning is done ahead of time with an eye to providing a balanced and appealing combination. By eliminating individual choices, fewer foods need to be prepared and less time will be required to go through the line.

Many plants do not have the facilities for serving complete meals. Space may be lacking, equipment hard to secure, and the services of a trained manager not available. It is in such organizations that education concerning the packed lunch is especially important. Under these circumstances the management must face the problem—is it possible to serve one hot dish to supplement the lunch brought from home, or should beverages, hot or cold, be made available to the men? And if so, what foods should be served, and when should they be on sale?

Between-Meal Feeding

One pressing problem confronting industry is:—Shall our plant provide between-meal food? The daily meals must not only provide the BASIC-SEVEN FOODS but enough food to meet the worker's increased energy needs. If he purchases too little food at the cafeteria or brings too little in his lunch box he naturally will be hungry before it is time for the next meal. Then, if his energy is not stepped up with food, his work slumps, he tires easily, his concentration is poor, and accidents may result. That is why many industrial plants think it is good business to provide something for that extra or booster meal. Whether the worker benefits more from the extra food or from the pause is a question. There is no doubt but that a short period of relaxation from routine activity is of value in restoring lost motive power. Some argue that the taking of food during this off duty time may be just a habit, like the popular practice of raiding the refrigerator before retiring.

However there seems to be a physiological reason for that let-down feeling midway between meals. Studies have shown that it is due to a depletion of the concentration of sugar in the blood following several hours without food. Thus it would seem that if the blood sugar could be returned to normal by some sort of food, vigor would be restored and the worker's efficiency level would be resumed. In 1939 Haggard and Greenberg made a study of "Between-meal Feeding in Industry."[1] At this time they secured good results by feeding high carbohydrate foods, chosen because of their rich yield of sugar; they also stressed foods easily digested so as not to burden the system. In 1941 a further report came from these authors, this time on "The Selection of Foods for Between-meal Feeding in Industry."[2] In this they make the statement that the two requisites listed above are not enough and specify that the booster meal should contain both minerals and vitamins as well as the sugar and the easily digested material. Under these circumstances the between-meal food makes a contribution to the diet in that it adds the elements which are likely to be lacking. Similar studies on the effect of between-meal foods were made by Comstock and Eddy.[3] They reported a decrease in absenteeism in groups thus fed and also noted a changed attitude toward their work, particularly among the women workers.

The Committee on Nutrition in Industry of the National Research Council[4] has recently reported that in the great majority of plants food dispensaries, where they exist, are operated on the "give the men what they want" policy, and candies, pies, cakes and soft drinks are apt to constitute too great a proportion of their stock. Haggard and Greenburg comment "The energy content of the food given at two between-meal feedings (as witnessed at individual plants) might

(Continued on page 42)

(1) Haggard, H. W., and Greenburg, L.A. "Between-meal Feeding in Industry" Journal of the American Dietetic Association, 15, 435-39. 1939.

(2) Haggard, H.W. and Greenburg, L.A. "The Selection of Foods for Between-meal Feeding in Industry." Journal of the American Dietetic Association, 17, 753-58. 1941.

(3) Comstock, L. and Eddy, W. H. "The Effects of a Supplementary Rest Period Luncheon on Industrial Absenteeism" Journal of the American Dietetic Association, 11, 239-42, 1935.

(4) National Research Council "The Food and Nutrition of Industrial Workers in Wartime" Reprint anl Circular Series, No. 110, April, 1942.

WHERE A COMPLETE MEAL is available within the plant, wise management will see to it that the planning and preparation of the food is under the supervision of a competent, trained dietitian who has an appreciation of the workers' nutritional needs.

NEW STABILIZATION PLAN AND CONTROLLED HIRING

By WILLIAM J. FITZGERALD, State Manpower Director

EARLY in October there were inaugurated in Connecticut two measures designed to diminish still further unnecessary job transfers and to stabilize the employment situation in the State. The new state-wide stabilization program increases from 30 to 60 days the waiting period of those who have no statement of availability, provides for the transfer of workers not being used at their highest skills or on full time, and eliminates regulatory differences previously existing in various parts of the State because of the several employment stabilization plans.

The second significant development is the new controlled hiring system gradually being put into effect in central Connecticut. It is not planned to put this plan into effect in one fell swoop, but gradually to shift the flow of workers from the various factory gates to the local U. S. Employment office for distribution. Controlled hiring has already become effective on the West Coast and in Buffalo, N. Y., by directive. In Connecticut, for the first time, an effort is being made to do it on a voluntary basis.

It is my own feeling that here in this State of Connecticut more can be accomplished through cooperation than coercion. The State has a long history of individualism, in its best meaning, and as Manpower Director, I would rather capitalize on this asset than to disregard it and depend entirely on directives and orders. The voluntary adoption of a controlled hiring scheme in Connecticut is being watched carefully by national authorities to determine whether or not it may be a workable procedure nationally.

The new stabilization agreement, which has already been accepted by Management-Labor War Manpower Committees in every area except Waterbury, contains several important changes from regulations previously in effect. Reasons for the issuance of statements of availability formerly varied in different parts of the State but now, uniformly, they will be issued to an employee if: "(1) He has been discharged, or his employment has been otherwise terminated by his employer, (2) He has been laid off for an indefinite period, or for a period of seven days or more, (3) Continuance in his employment would involve undue personal hardship, (4) Such employment is or was at a wage or salary or under working conditions below standards established by State or Federal Law or Regulation, (5) Such employment is or was at a wage or salary below a level established or approved by the National War Labor Board as warranting adjustment and the employer has failed to adjust the wage in accordance with such level or to apply to the appropriate agency for such adjustment or approval thereof."

In any of the foregoing instances statements of availability may be issued by the employer but if he fails or refuses to issue a statement the U. S. Employment Service, upon finding the individual entitled to it, may issue the statement. The Employment Service may also issue a statement to any individual whose employer has not complied with the War Manpower Commissions' stabilization program, "for so long as such employer continues his non-compliance after such finding."

WILLIAM J. FITZGERALD

Boosting the waiting period for non-holders of statements of availability from 30 to 60 days will not affect those employees who were separated from employment prior to October 15, even though the thirty days span continues beyond that date.

A new list of "controlled occupations" has also been issued in connection with the program and differs from other critical lists in that jobs are now listed in horizontal categories covering similar machine processes in all types of industries, rather than a vertical segregation according to industry. For example, metal machining includes "all operations such as the use of hand controlled or automatic machine tools or production machinery and including: all-around metal machining, and the following special machine operations either involving or not involving setup: turning, milling, profiling, hobbing, boring, drilling, reaming, threading, planing, shaping, facing, sawing and other related processes.

Other controlled occupations include woodworking machine operations; metal machine-forming, forging and shearing; non-metal hand or machine molding, modeling and spreading, such as glassblowing or plastic material modeling. Mechanical repairing and installing of industrial instruments, internal combustion engines, textile machinery are also included in the list of 21 general categories now listed as controlled occupations.

Although the new stabilization plan will now be uniform throughout the State, one optional regulation provides that Area Committees may insert in the agreement a provision for the retention of seniority rights by employees transferring to war industries. Approximately one-half of the State has already approved such a provision, and more are expected to adopt it.

In providing for the transfer of workers not now being used at full skill, the agreement provides, "If an individual is employed at less than full time or at a job which does not utilize his highest recognized skill for which there is a need in the war effort, the United States Employment Service may, upon his request, refer him to other available employment in which it finds that the individual will be more fully utilized in the war effort."

Provisions of the stabilization program do not apply to agricultural labor; workers hired for a duration of less than seven days; state, county or

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TRAINING SECTION

THIS SECTION is dedicated to the promotion of "more training for more people in more Connecticut plants". More of the right kind of training in the right places will avoid the break-up of many homes, shorten the war and implement the peace.

Along with War Manpower Commission and Selective Service officials, the Manpower and Manufacturers Committees of the War Council, the heads of training agencies and many leading Connecticut manufacturers, CONNECTICUT INDUSTRY believes that intelligent training and utilization of workers spells the lion's share of the answer to our present manpower dilemma.

The acid test of the value of training is what the "users" think. They tell their own story in advertising testimonials in this section.

THE EDITOR

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HERE IS THE INDEX TO CONNECTICUT'S TRAINING TOOLS

YES, INDUSTRIAL SUPERVISORS ARE ON THE SPOT!

By ALBERT E. WHITEHILL, Connecticut Representative, Training Within Industry Division of the War Manpower Commission.

"PRODUCTION and even winning the war, depends more upon industrial supervisors than on any other group in America." A statement like that is enough to put anybody on the spot and yet no one disputes the truth of it.

To those who ask, "What do you mean 'Supervisor'?", the answer is "A Supervisor is any person in industry, man or woman, who supervises the work of others, whether one other, hundreds of others or thousands."

Executives, superintendents, foremen, leadmen, group leaders, straw bosses, gang leaders, aren't you all supervisors?

Do You Agree, Mr. Supervisor?

Isn't it true that your day-to-day work involves wide responsibilities and that the greater the degree to which you acquire certain knowledge, the more successfully you fill your job as a supervisor? For example:

Knowledge of your Work—Materials, Machines, Tools, Processes, Operations, Products, and how they may be used.

Knowledge of Responsibilities—Policies, Agreements, Rules, Regulations, Schedules, Inter-Departmental Relationships.

ALBERT E. WHITEHILL

Such knowledge can not be acquired the first day on the job. It builds up day by day, week by week, or year by year.

Your need for such knowledge must be met currently and locally in each plant or company. It must be acquired if you are to know your job thoroughly and to have a clear understanding of your authority and responsibilities. No stone should be left unturned to spread such knowledge.

Is This a New Thought, Mr. Supervisor?

Have you generally thought of skills as acquired in specific operations and that can be demonstrated right before you very eyes?

There are, however, other types of skills that are equally valuable and that must also be acquired individually:

Skill in Instruction
Skill in Improving Methods
Skill in Leading

Practice and experience in using these skills enable both new and experienced supervisors to recognize and solve daily problems promptly. Once acquired, they must become a part of day to day operations and must be used constantly, right on the job.

Don't overlook the fact that if you personally have once acquired these several skills, they are yours for life. No one can take them away from you. They are equally important in all levels of supervision, in time of war or in peacetime competition.

Skill in Instruction

"Shortening training time by breaking down each job into units easily learned, making the learner receptive, presenting the instruction, trying out his performance, following up for results."

To help sharpen up or acquire this skill, the Job Instruction program of Training Within Industry provides a sound basis on which to build. There is something more to good instruction than the brief description given above. Such further considerations are essential:

The Record Speaks For Itself

To date over 2500 supervisors in 366 Connecticut war plants have participated in the Job Instruction program. Wise management will not say, "We HAD JIT", it will say, "We are USING JIT as a production tool in our daily operations and we are getting specific results."

To date over 4500 supervisors in 61 Connecticut war plants have participated in the Job Methods program. There were some skeptics at one plant when management scheduled 40 groups or 480 supervisors for the program (4800 man hours). The skepticism died when the second group to meet turned in an improvement that saved 8100 man hours.

To date, over 3000 supervisors in 64 Connecticut war plants have participated in Job Relations Training. The number of people in your plant who can be helped by Job Relations Training is exactly the same as the number on your payroll. Good Job Relations net "More production through better supervision".

Dept.	Number of Employees	Increase in Production	Reduction in Training Time	Savings in Manpower	Decrease in Scrap
Machine	360	25%	30%	25%	60%
Assembly	150	15%	—	10%	10%
Inspection	209	10%	15%	15%	20%

Cut the percentages in half and they still spell "More production through better supervision".

THREE FOREMEN in one war production plant in Connecticut have measured the specific results of complete departmental supervisory participation in the Job Instruction Program. A tabulation of the results appears above.

Have a timetable
Break down the job
Have everything ready
Have the work place properly arranged

Specific results are obtained when you put this skill to work.

Skill in Improving Methods

"Utilizing materials, machines, and manpower more effectively by having supervisors study each operation in order to eliminate, combine, rearrange, and simplify details of the job."

A sharp eye and a sharp method of plying the tried and true principles of questions, and still more questions, to every detail of every job will cut through many critical bottle-necks. Such potent questions as:

WHY is it necessary?
WHAT is its purpose?
WHERE should it be done?
WHEN should it be done?
HOW is the "best way" to do it?

There is scarcely a job that can't be improved and none too small to "go to work on" to develop those improvements. The Job Methods program of Training Within Industry provides the kind of thinking and practice that gets results. One of our large war production plants reports:

"We have trained, and expect to continue to train, key personnel to cover all types of work done in the plant. Improvements of equal importance have been shown in the mechanical and electrical divisions; in machining and on the assembly line. We might list more than a hundred specific improvements showing savings in the use of manpower, materials and equipment. The following are typical of the substantial results demonstrated by the methods improvements, first presented in the groups, and later put to work on the production line:

An elimination and combination of machining operations resulting in 35% more pieces per day.

A combination of operations and a re-design of a holding device, resulting in a saving of 12.30 hours per hundred or a time saving of 60%, with a resultant increase in production of 150%.

A 70% saving in material handling in connection with an operation in the assembly department.

A reduction in machining costs from $.157 to .57 per hundred pieces.

A tripled production on the part of one operator in the repair department, with the result that two operators were freed for other productive work. This was accompanied by a 20% reduction in final rejects and the elimination of a bottle-neck.

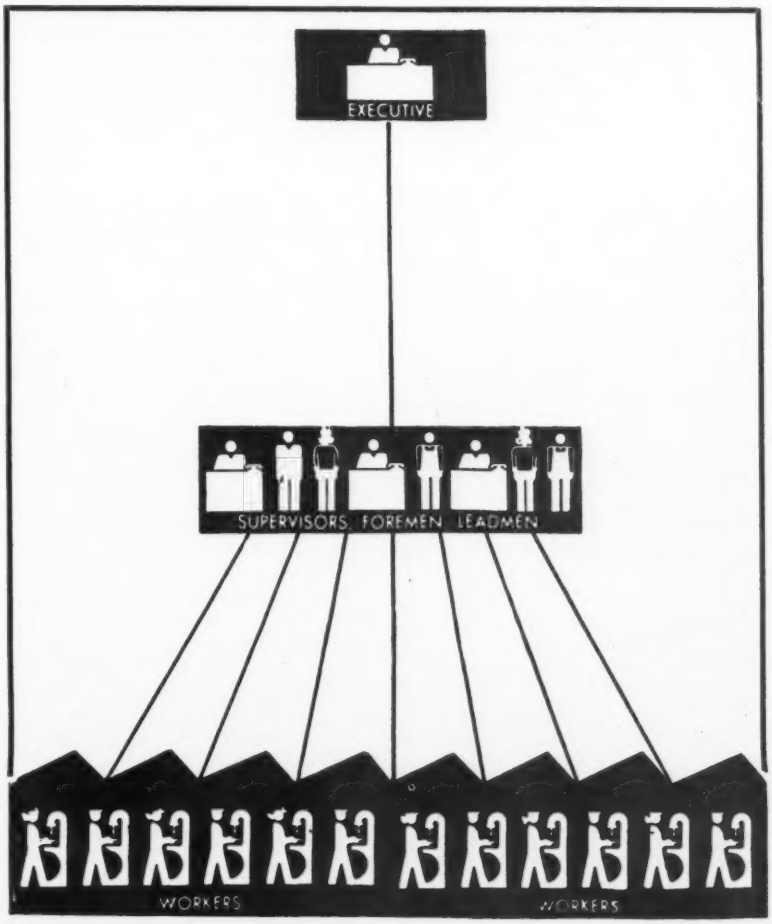
The re-design of a holding fixture which cut damage in operation from 30% to 8%.

Our greatest satisfaction in the fine contribution of JOB METHODS TRAINING is that the results are permanent and accumulative.

Should not these skills be acquired by every supervisor in YOUR PLANT? Would it not be far better to increase your production five to ten per cent with your present working force than to add five to ten per cent new workers even if they were available?

We urge you to transmit this message to all supervisors in YOUR PLANT. Reprints or copies of a 10-page illustrated booklet carrying the

(Continued on page 19)



INDUSTRY GOES TO COLLEGE

By LAUREN E. SEELEY, *Regional Adviser*, Engineering, Science, Management War Training, Region 2.

INDUSTRY has been going to college in a big way since January 1941. Over 25,000 employed persons have enrolled in special, short-term courses. They have attended these courses at night during their spare time. The object of the courses is to provide workers in war industries with whatever knowledge and training will prove useful for war production in the shops. Experience reveals that the subject matter required runs from the equivalent of freshman mathematics and engineering drawing to advanced engineering subjects. But subject matter doesn't remain more or less fixed as in regular college work. Due to changing needs in industry courses keep changing. The one clear objective behind this college-training activity is to provide training that will help industry to produce the goods.

The need for specialized college-level courses has remained quite constant since January 1941 but the reasons for it have been changing. At first the principal reason was the increase in personnel and the need to build up employees for advancement. The growing shortage of college-trained men further stimulated the cultivation of existing employees. The replacement schedules of the manning tables now demand the training of new persons. Finally the colleges are now devoted almost wholly to the training of Army and Navy personnel. This stops almost completely the training of civilians for service in industry. Today the only way in which industry can secure college-level training is by means of the short-term courses which are still available for its use.

The program which provides these courses is known as the Engineering, Science, Management War Training (ESMWT) program. It has been approved and vigorously supported by the Manufacturers Association of Connecticut since its inception and has received the active cooperation of the local Manufacturers Associations throughout the state. The program is supervised by the U. S. Office of Education and conducted in Washington by a select group of engineering educators who are on leave of absence from their respective schools. This group is unpolitical and unbureaucratic—a unique and refreshing fact. It controls the expenditure of about $25,000,000 to train over 600,000 persons.

LAUREN E. SEELEY

The actual training is conducted without tuition charge by approved universities and colleges throughout the country. Each school establishes direct contractual relations with the Washington office and each school has great freedom of action in meeting the training needs in its area—another unique feature. The basic agreement with Washington is to conduct training for industry in engineering, management, physics and chemistry when the need of such training is indicated and to do such training at cost. Since the program involves additional wear and tear on existing buildings and equipment and overtime on most of the personnel, the "at cost" provision often involves hidden costs to the schools which they are glad to assume as a further share in the war effort.

The approved schools in Connecticut are the University of Connecticut, and Yale University. Yale University serves the industries in Fairfield and New Haven counties and the University of Connecticut serves the remainder of the state. It has been a novel feature of our Connecticut set-up that Junior Colleges teaching subjects in the fields of engineering and management were invited to cooperate with the universities. This they gladly did and brought with them a knowledge of industry and a good will that has been most valuable.

It should be timely to point out that the junior colleges in Connecticut have always enjoyed the active support and cooperation of industry. Over the years their training of young and ambitious men has been ploughing back into industry the skills and knowledge that keep industry productive. A debt to these schools should be freely acknowledged both by industry and the universities.

During the life of this program, due to gasoline and tire shortages and the growth of the program, more and more courses have been offered off campus until now there are courses conveniently located for practically all of Connecticut industries. The directory on training agencies prepared by the Connecticut War Council includes the complete story of ESMWT facilities. Every manufacturer is urged to review his needs and prepare a complete training program. It will help now and the experience in preparing training programs will be an important element in post-war reconversion.

In order to plan effectively it might help to review a few highlights in this specialized type of college-level training that were revealed by a most painstaking study of the actual accomplishments of the program. This study was made by Mr. Claude W. Fawcett of the New Haven Junior YMCA College. He discovered the following elements where the program achieved its maximum value: (1) The company made a review of its difficulties in production; (2) It determined by conference with the schools the kind of training that would be most helpful; (3) The company reviewed its personnel and selected the most promising employees for training. It should be noted here that these employees were not required to take training but most of them were ambitious enough to realize that an opportunity was at hand; (4) The company and the school by conference agreed upon the content of the course to be sure it would accomplish its purpose; (5) The school sent short progress reports of the trainees to the company; (6) The company interviewed their trainees during the course to make sure the trainee was satisfied and that the course

(Continued on page 20)

APPRENTICE TRAINING IN CONNECTICUT

By the CONNECTICUT STATE APPRENTICESHIP COUNCIL

YANKEE ingenuity and inventiveness have long been recognized as the backbone of Connecticut industry. It must be recognized, however, that this ingenuity sprang from the opportunity on the part of our early settlers to work with their minds and hands on the manufacture of varied products. This made it possible for large numbers of workers to acquire the broad skills we have come to associate with craftsmen and provided the background for the development of many products which now have world-wide distribution.

The perpetuation of this heritage of craftsmanship and the inventive urge in modern manufacturing requires the planned approach to the problem which is embodied in the apprenticeship program sponsored by the Federal Committee on Apprenticeship and the State Apprenticeship Council. For a State like Connecticut which has limited natural resources and which depends for its economic welfare upon the development of new products as well as the manufacture of fine machinery and quality products, the availability of skilled labor is imperative and will intimately affect the future of the State.

The War Production Program in this State brought into sharp focus the shortage of skilled craftsmen. This problem pre-dated the war. For example, as far back as 1937, when this State experienced a period of rising business activity, acute shortage of skilled workers developed in many industries. To meet this situation the Connecticut State Apprenticeship Council, comprised of employer, labor and public representatives, was formed in 1938, for the purpose of stimulating interest in trade training and encouraging both labor and management to recognize the need and take effective steps to safeguard this vital State asset. The Council's program met with immediate success, but the impact of war production demands further aggravated an already serious situation. Efforts to meet this situation early in the war by starting the training of men for the skilled trades were largely nullified by the heavy demands for manpower by the armed services. This has left a large gap in our State training requirements to meet both the present and future industrial needs for skilled workers.

This problem has been clearly presented in an article contributed by the Apprentice Training Service which has particular application to Connecticut:

> "Actually we face an acute shortage of highly skilled labor during the next few years. The fact that it takes several years to train a competent mechanic makes this inevitable, although upgrading, job dilution, long hours and other expedients will probably prevent a general breakdown in production. It is also inevitable, however, that the return to a peace-time economy and utilization of the new materials, methods and machinery for civilian production will call for a tooling job by industry exceeding in scope and variety the problem of conversion to war material with which industry has struggled during the past few years. The exercise of foresight against the possibility of a long war first requires, therefore, that a broad program of training be started now to meet possible military needs, and, secondly, should good fortune crown our efforts and victory be achieved in the near future, to provide manpower skills essential to a speedy conversion to peace-time production. This is essential insurance against a time lag in the conversion to civilian production which may have far-reaching and dangerously harmful effects upon our economic, social and political institutions. Therefore, apprenticeship, the only thoroughly tested economical and practical method of developing the essential

(Continued on page 20)

THE PERPETUATION of Connecticut's heritage of craftsmanship and inventiveness in modern manufacturing requires the planned approach to the problem of training the younger generation, an approach which is embodied in the apprenticeship program sponsored by the Federal Committee on Apprenticeship and the State Apprenticeship Council.

TRAINING PANORAMA

The accompanying dramatization of training facilities available to Connecticut industry indicates how the Training Co-ordinator for a plant can organize the training of personnel to develop capable men and women for job openings as they arise, on all levels, including skilled, supervisory, technical, engineering, and management.

▲ ▲ ▲

CORRECT placement procedure by the plant personnel department will direct trained and experienced applicants to proper levels where "ladders of training" are available for further advancement.

OPPORTUNITY for advancement of unskilled personnel is provided by "ladders of training", as follows:

A—Supplementary training by VTWPW
B—In-service training by VTWPW
C—Apprenticeship Training by ATS
D—Technical Training by ESMWT
E—Job Instruction, Job Methods, and Job Relations Training by TWI
F—Industrial Management and Supervision Training by ESMWT
G—Foremen's Conference Training by VTWPW
H—Engineering and Science Training by ESMWT
J—Industrial Management Training by ESMWT

▲ ▲ ▲

TRAINING Agencies of the War Manpower Commission are:
VTWPW—Vocational Training for War Production Workers, conducted by the State Trade Schools.
ESMWT—Engineering, Science and Management War Training, conducted under the supervision of University of Connecticut and Yale University.
ATS—Apprentice Training Service—conducted jointly by State Apprenticeship Council and War Manpower Commission.
TWI—Training Within Industry conducted by War Manpower Commission.

▲ ▲ ▲

WHERE TO FIND IT

FOR COMPLETE details of Training Services and their sources, see *Blueprint for Training* directory, recently published and distributed by the Connecticut War Council.

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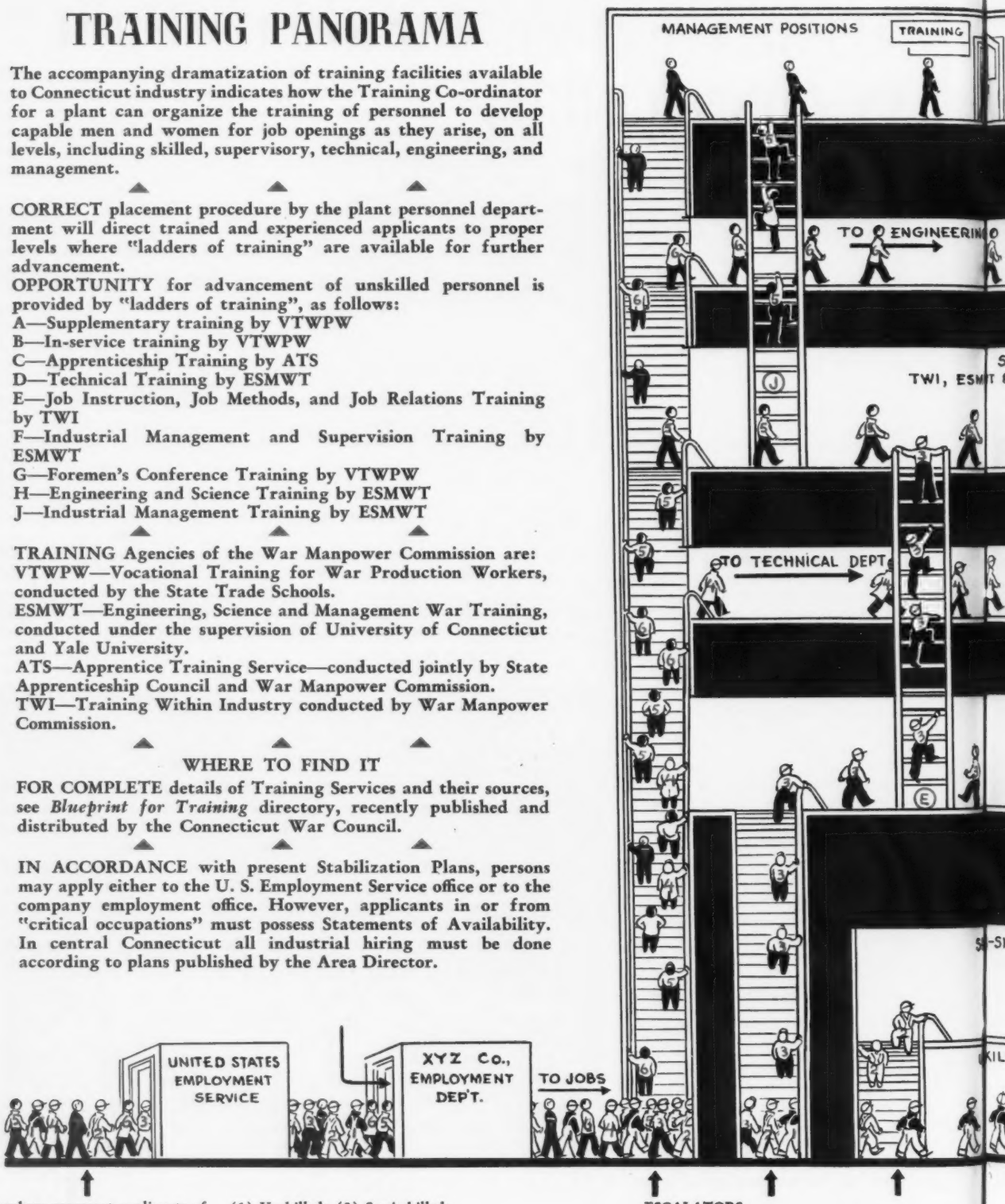
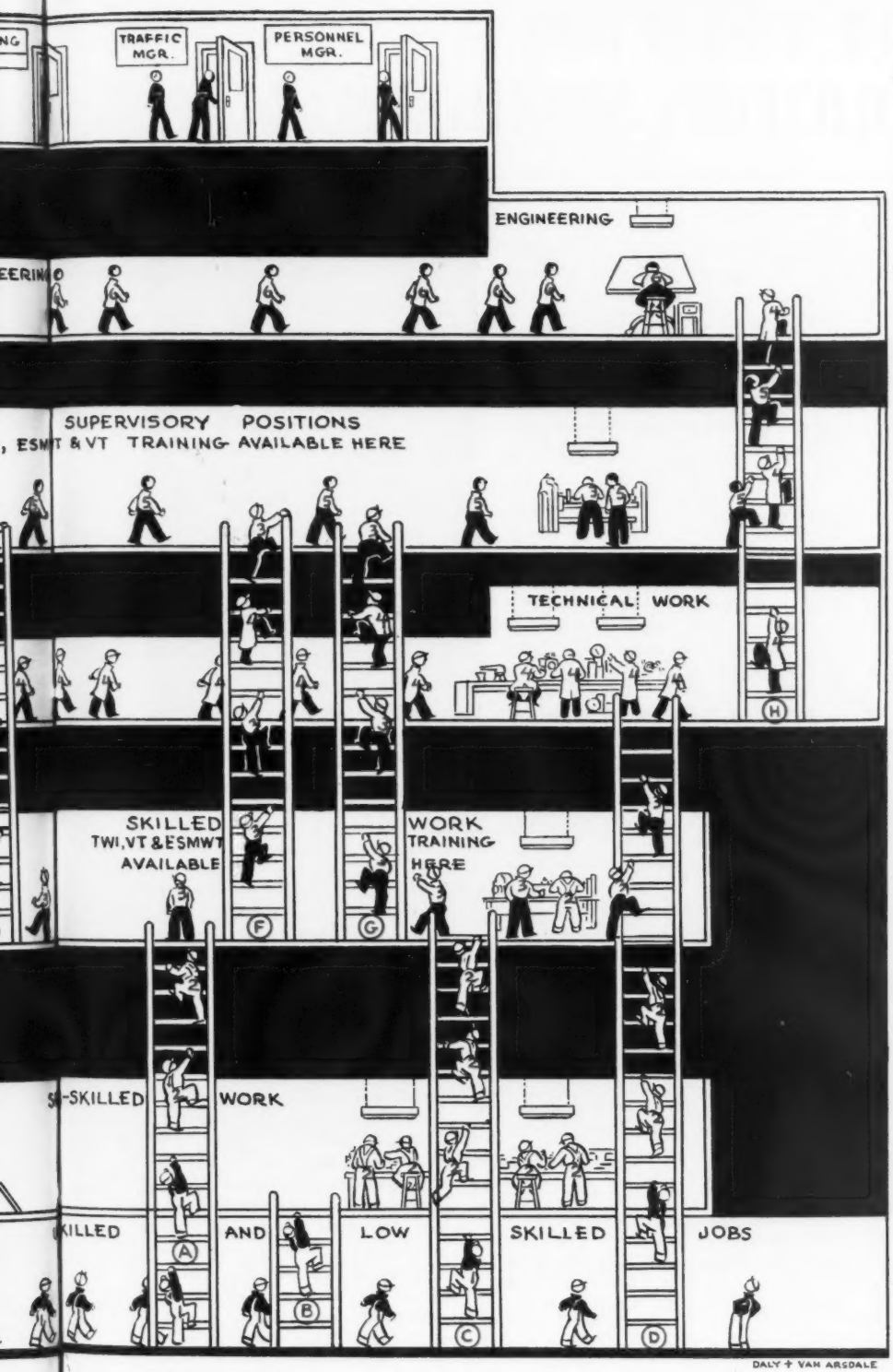
IN ACCORDANCE with present Stabilization Plans, persons may apply either to the U. S. Employment Service office or to the company employment office. However, applicants in or from "critical occupations" must possess Statements of Availability. In central Connecticut all industrial hiring must be done according to plans published by the Area Director.



Numbers represent applicants of various abilities ➡ **(1) Unskilled; (2) Semi-skilled; (3) Skilled workers—journeymen; (4) Technicians—chemistry, etc.; (5) Supervisors, foremen; (6) Engineers; (7) Management.**

ESCALATORS
Direct escalators to correct placement for trained and experienced personnel, where training is available for further advancement.



7. Training for and on the management level available through ESMWT

6. Training for and on the engineering level available through ESMWT

5. Training for and on the supervisory level available through
   ESMWT
   TWI
   VTWPW

4. Training for and on the technical level available through ESMWT

3. Training for and on the skilled level available through
   ATS
   VTWPW
   TWI
   ESMWT
   company sponsored programs

2. Training for and on the semi-skilled level available through
   VTWPW
   company sponsored programs

1. Pre - employment and vestibule training available through
   VTWPW

TRAINING CLASSES FOR WAR PRODUCTION WORKERS

By A. S. BOYNTON, *Director*, Bureau of Vocational Education, Division of Instruction, State Department of Education.

WHEN there occurs any great change in the occupational status of the members of a nation, state or town, one of the major factors in this change is training. Such a change began to be evident by midsummer of 1939, when the industries of this country experienced the coming shortage of labor. Following this came the induction of new recruits into the military forces with a planned personnel of at least 10,000,000 persons.

The training of 10,000,000 persons to fight the war, with several times this number back home being inducted into new industrial occupations, meant that a large percentage of the people of the country were engaged in learning to work at occupations at which they had not worked before. The result was that one of the major factors which influenced the getting started to win the war was the degree of efficiency of the training system. This applies to both the training for industry and the training of the soldier.

Insofar as the training of people to take up work in industry is concerned, it can be said that Connecticut has been one of the best prepared states in the nation, in that it had a time-tested system of trade schools operated by the state and when, in 1939, the problem appeared of training a large number of workers these schools were ready to take up the task. The adaptability of the trade schools is apparent when it is realized that the war training problem in 1939 and since has been to train specialized workers mainly as machine operators by means of a five weeks training course whereas the ordinary peace time program of the schools is to train for the highly skilled trades which require from three to four years of school training. It should be emphasized that the War Training Courses have made machine operators and not highly skilled craftsmen. One of the post-war problems is to provide further more detailed training for the persons who have taken the War Training Courses in order that they may have broader skills and, therefore, more stable employment in the years to come.

As an indication of the amount of training done by the trade schools for the War Time Emergency, an inspection of the records shows that since November of 1939, over fifty-five thousand persons in Connecticut have enrolled in the War Training Courses. This is exclusive of those in the regular all-day trade schools classes.

The training courses were first established in the State Trade Schools and, as need increased, more classes were established in many of the high schools until thirty-five different training centers were in operation distributed throughout the state. Many of these have been operated by the state directly in industry itself, the state providing the instructors and often the equipment, and the plant furnishing the space.

EXCLUSIVE of those in regular all-day trade school classes, 55,000 persons in Connecticut have enrolled in War Training Courses since November 1939—an indication of the amount of war emergency training being done by the trade schools.

ABOVE, LEFT, A. S. Boynton, State Director of Vocational Training discusses training with John J. McCarthy, Supervisor of Training, General Electric Company, Bridgeport.

The courses have covered any need which has arisen as requested by our various industries as follows:

general machine work
automatic screw machine
foundry practice
aircraft metal work
welding—arc, gas, or spot
gun belt making
blueprint reading
parts inspection
Red Cross motor corps
emergency nursing
aircraft layout and design
metallurgy
airplane engine assembly
parachute making
parachute assembly
parachute shroud making
tool and die work
hand and gun riveting
power press operation
spray gun operation
textile machines

It is, of course, evident that the better trained the worker is when he begins his employment the less are the worries of his foreman or squad leader. Of late as the pinch of labor shortage has become more and more acute, quite often the schools meet with the idea in industry that the need for labor is so great that industry cannot wait the two to five weeks for the school to train the workers. The general answer to this is that some one will have to train the new worker, either the school, or the foreman after the worker comes to the plant. If the foreman breaks in the worker, then the time which should be devoted to supervision of production is sacrificed and when there are a large number of workers constantly changing and being broken in by the foreman, it means that although the time lost from supervision is concealed, that loss is still there. Even in a plant of one thousand workers and where the processes may be simple with but a few days required to bring a green worker up to full production level, it can be demonstrated that it takes at least the equivalent of the full time of three foreman to break in the new workers. Since the War Training Classes, as operated by the trade schools, train specifically for the needs of the industrial plants, the schools teach only those operations required by the plant for the particular job on which the worker is to be employed. Because of this specialization the new worker comes to the plant with knowledge of the operations he is to perform, thus relieving the foreman of his teaching responsibility. This, in turn, results in a speeding up of production, as well as decrease in spoilage and reduction of accidents. This type of training can be done by the schools when the plants signify to the schools the type of operations which should be taught the new recruit.

In addition to the training in the shop work operations, it has been found, in recent months, particularly desirable that new workers especially women, pass through some type of orientation course. The purpose of such a course is to give the worker, a general idea of the requirements of industry, as well as to remove the fear of moving machinery and to eliminate persons whose mental reactions are such that they never could get accustomed to industrial conditions. These Orientation Courses vary in length from a day to two weeks depending on the type of work. In some, the things to be taught are of a general nature only, while in other cases the names of tools or elementary operations are learned. These courses must always be planned with the plant officials specifically for the needs of each plant.

War Training Courses are of two types; one, the pre-employment course, which is for new workers, and is given before they enter a plant for employment, and the other, known as the supplementary course, which is attended by the worker after he has entered employment. This supplementary course gives him training on the type of operation on which he is already engaged, or about to be engaged, in his daily work. For example, if a plant is employing a man on a turret lathe and expects later on to need him on an automatic screw machine, then the plant should recommend to the worker that he attend the trade school supplementary classes a few hours per week to learn automatic operation. This broadening of training benefits both the industry and the man. This simple illustration of the operation of the supplementary courses will indicate how, in a plant, a large program of replacement of inducted workers can be accomplished through systematic planning by the plant by which plan the workers can be up-graded into positions which are about to be vacated.

Time spent in training workers previous to their going on production always pays dividends. The Army is emphatic in recognizing this fact in the training of the soldier. Industry also, in general, believes in this principle, although in the stress of great need, the temptation is great to short-circuit training notwithstanding the fact that a poorly trained worker may be a liability rather than an asset.

Plant officials who desire further information on training possibilities should get in touch with their local State Trade School director or with A. S. Boynton, Director of the Bureau of Vocational Education, State Department of Education, Hartford.

INDUSTRIAL SUPERVISORS

(Continued from page 13)

same message on the cover of which you will only have to have your Company name printed, are available at a nominal cost from the Manufacturers Association of Connecticut. The subject matter of the booklet might well be placed in the hands of every industrial supervisor in Connecticut.

Skill in Leading

"Increases production by helping supervisors to improve their understanding of individuals, their ability to size up situations, and their ways of working with people."

What is a leader? "A leader is any man who has followers". (Is that a fair definition?) Without followers, who can be a leader?

Consider for a minute some of the good homely "headlines" in the Job Relations program of Training Within Industry.

GET THE FACTS (Be sure you have the whole story)
WEIGH & DECIDE (Don't jump at conclusions)
TAKE ACTION (Don't pass the buck)
CHECK RESULTS (Did your action help production?)

Here's a statement of the value that one Connecticut plant places in the Job Relations program.

> "In the words of the ten foremen, we believe this training will "help to control tempers, give a realization of responsibility, a better method for handling men, a better understanding of workers' problems, an increase in production through better training, better teamwork, a better understanding between help and foremen, an understanding of importance of treating each man as an individual, a better understanding of his importance in the scheme of things, and will stop them from snap judgment, show important points in getting cooperation, and help supervision give thought before action."

We repeat for emphasis, "Don't overlook the fact that if you personally have once acquired these several skills, they are yours for life. No one can take them away from you. They are equally important in all levels of supervision, in war or in peace time competition.

If you are not taking full advantage of all phases of the Training Within Industry program, both the starting phase in the three 10-hour units and the continuing phase for each unit, then we strongly urge you to do so.

Address your inquiries to: A. E. Whitehill, Dist. Representative, Training Within Industry, 52 Temple St., New Haven, Conn.

TODAY practically the only way industry can secure employees with college-level training is by means of the short-term courses provided by the Engineering, Science, Management War Training (ESMWT) program.

INDUSTRY GOES TO COLLEGE

(Continued from page 14)

was really producing the desired results; (7) The Company followed up the trainees after the course and gave the most promising ones a chance at new duties. When these elements of study and cooperation existed it was found that from 80 to 90% of the trainees who succeeded in completing the course were actually up-graded into new duties within six months. This speaks for itself. It is not a good idea to subscribe to training on the grounds that "it can't do any harm". The better way to approach the problem is that the training ought not to be given unless it can produce a good result. People who go to school in their spare time will naturally develop expectations. The "it can't do any harm" theory might be quite wrong.

The following is taken from a paper Mr. C. J. Reid, Staff Engineer, Douglas Aircraft Co., on the question of a proper curriculum for aeronautical engineering. "Experience with ESMWT courses has shown us the tremendously increased value of studies laid out by industry and taught by college faculty members with recently renewed industrial experience. Industry must join with the colleges in assuming the responsibility for building the right curriculum. In many of the subjects, industry must go still further and outline the detail content of the course." In another paper on college-level training, Mr. Reid states:—"The best ESMWT courses have been those teaching details suggested by industry itself. Another thing is the instructors. These best courses have generally been taught by men loaned from industry."

These comments emphasize the value and necessity of close cooperation between industry and school. Also they point out that industry is not only going to school to learn but it is also going to school to teach. Many of our teachers in the ESMWT program are men from industry who are giving up some of their spare time to help the war effort. These men are executives, administrators and engineers — all highly trained and very able in their respective fields. They know what industry needs. Often they are the only persons with the highly specialized knowledge necessary to teach certain courses. These men have been a great help in securing the proper cooperation between industry and school.

Training is a prime function of management and should be handled accordingly. A common desire of all training agencies which serve industry is to have each company designate someone in its organization to take care of its training problems. The agencies will help that man to make a complete plan of training. Wherever college-level training is needed the schools of Connecticut in the ESMWT program will do their part to serve Connecticut industry.

APPRENTICE TRAINING IN CONNECTICUT

(Continued from page 15)

skills, is a present, as well as a future, 'must'."

The present plan of the Connecticut State Apprenticeship Council and the Apprentice Training Service Representatives of the War Manpower Commission in this State calls for the broadening of existing apprentice training programs and the extension of such programs into all plants in the State requiring skilled workers. To make this possible in the face of the limited available manpower, an organized effort is being made to interest a selected group of returned veterans.

There also has been developed a joint school-plant apprentice training program in the Bridgeport and Hartford areas which would make high school youths 16 years of age available to plants for approximately 1800 hours per year. Under this program the boys will complete their high school training and credit toward their high school diploma will be given for the work experience.

Approximately 100 Connecticut firms now have registered programs approved by the State Apprenticeship Council. In order to facilitate the work of the Council which aims to develop uniformly high standards of apprenticeship training, provide information on apprenticeship to all interested groups and effectively co-ordinate these activities within the state, employer programs should be set up in cooperation and registered with the Council.

There is shown below a typical program of work experience for the toolmaking trade as an example of the type of program which the Council is encouraging. Programs vary in details between plants and trades, but all those approved by the Council follow a planned pattern.

Trade—Toolmaker—8000 hours

	Approximate Time
Stock Room	100 Hours
Crib	200 "
Lathe	1270 "
Shaper	400 "
Milling	1000 "
Grinding	900 "
Hardening	200 "
Machine Room	1000 "
Tool Engineering	150 "
Jig, Fixture, Gauge Work	2200 "
Related Training	580 "
	8000

Wage rates under these programs are progressively increased so as to be in line with the development of skills and productivity by the apprentice.

★ ★ ★

PERSONNEL OF CONNECTICUT STATE APPRENTICESHIP COUNCIL

REPRESENTING EMPLOYERS

Mr. Martin F. Burke
Personnel Director (Pratt & Whitney Aircraft Division)
United Aircraft Corporation
East Hartford

Mr. G. R. Fugal, Chairman
General Electric Company
Bridgeport

REPRESENTING EMPLOYEES

Mr. James J. Clerkin, Vice-Chairman, General Organizer, A. F. of L.
Bridgeport

Mr. John P. O'Donnell
Representing United Association of Journeymen Plumbers and Steamfitters of the United States and Canada
Hartford

REPRESENTING THE PUBLIC

Mr. John T. Hayes, Secretary
Deputy Labor Commissioner
State Department of Labor
Hartford

Mr. William G. Ennis
Director
United States Employment Service
Hartford

Mr. R. A. Howes
State Supervisor, Trade and Industrial Training
Bureau of Vocational Education
State Department of Education
Hartford

APPRENTICE TRAINING SERVICE PERSONNEL IN CONNECTICUT

Perley Hovey, Field Representative
310 Post Office Building
Bridgeport, Connecticut

I. Harry Hyman, Field Representative
122 Washington Street
Hartford, Connecticut

William Harrison, Field Representative
139 Goffe Street
New Haven, Connecticut

DID YOU KNOW?

THE WAR at present is costing us about seven billion dollars per month, an average of more than 233 million dollars per day. At that rate a little more than four months of it would equal the total military cost of World War I, and less than six months of it would equal our total World War I cost with loans to the Allies included?

★ ★ ★

THAT HAMILTON Standard Propeller, one of the divisions of United Aircraft, with its licensees, is now producing slightly more than 76% of all American warplane propellers, and is represented on more than 30 major types of Army and Navy planes?

★ ★ ★

WHILE THE AVERAGE tractive power of locomotives is now more than one-third greater than twenty years ago locomotive fuel consumption per unit of traffic is about one-third less?

★ ★ ★

THE NUMBER of passengers carried per train was the highest on record in the first six months of 1943, averaging 174 persons compared with 99 in the same period in 1942?

MORE TONS of freight of all kinds moved by rail originate in Pennsylvania than in any other state, with West Virginia second and Illinois, third?

★ ★ ★

OUT OF EACH DOLLAR of operating revenue received in 1942 by the railroads, 16-1/10 cents went for taxes, compared with 4.6 cents in 1918?

★ ★ ★

PULLMAN TRAFFIC, measured in passenger miles, now averages nearly two billion a month and the 1943 total may exceed by thirty per cent the all-time high record of eighteen billion?

★ ★ ★

FREIGHT TRAINS carried an average load of 1,086 tons of freight in the first half of 1943, the highest average on record?

★ ★ ★

IN ORDER TO CONSERVE filing space and manpower many railroads now photograph waybills on miniature film, which work can be performed at the rate of fifty per minute?

★ ★ ★

FACTORY EMPLOYMENT in Connecticut had increased from 300,000 in July 1940 to practically one half a million in July 1943? Weekly payrolls have trebled in the same period.

★ ★ ★

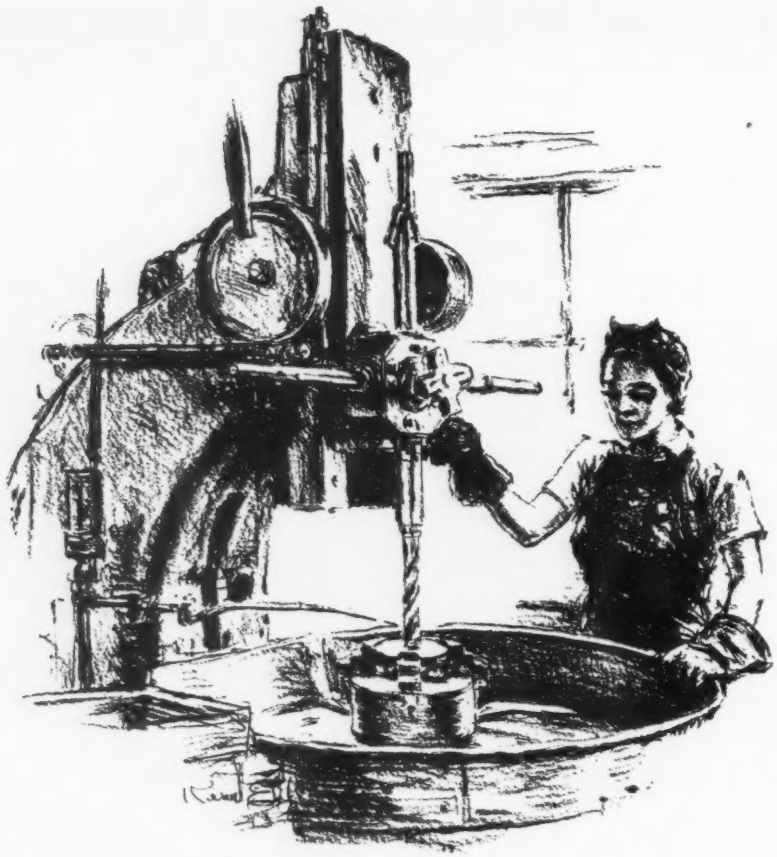
THE CONNECTICUT per capita war production figure of $2,937 is almost three times the United States average and 32% higher than the second ranking state?

★ ★ ★

THE AVERAGE Connecticut male employee earned $57.25 for his week's work while the average male factory employee in the United States earned $51.50. Adjusted to a forty hour base, Connecticut male weekly earnings are $41.60 compared with $41.40 for the United States?

★ ★ ★

ALTHOUGH the advance in the cost of living for Bridgeport and New Haven between January 1941 and June 1943 averaged 21%, weekly earnings in the same period rose 64% for male employees and 85% for female employees?



Training BRASS WORKERS for WAR PRODUCTION

Walk through our plants, and you will see thousands of men and women operating presses and powerful brass mill machinery. Yet many of them had never worked in a factory before. Their skill is due largely to the intensive training program in effect at Bridgeport Brass Company.

When the war production program created the serious need for tremendous quantities of special tools, it taxed the abilities of our limited number of highly skilled tool-makers. Thanks to the splendid cooperation of the State Trade School's War Production Training Program, about 100 women were given a machine shop course which enables them to do important work on tool-making.

In the past year more than 1,000 of our employees have received instruction under the Training-Within-Industry program. This has helped educate our foremen in their teaching methods and in their relations with workers.

In addition about 300 of our supervisors had the good fortune to take Major Charles T. Estes' course covering all aspects of a foreman's job, including grievances, labor saving, material saving, etc.

These programs have contributed much to the war effort on the home front.

"Bridgeport" BRASS CO.

BRIDGEPORT BRASS

BRIDGEPORT BRASS COMPANY • BRIDGEPORT, CONNECTICUT • ESTABLISHED 1865

JOB TRAINING GAVE THEM THE WHY AS WELL AS THE HOW

Like everyone else we were faced at the beginning of the war with the double problem of replacing skilled workers taken in the draft and of recruiting extra help to meet our constantly expanded requirements.

In our own plant, under the State Trade School program, over 400 new employees obtained through the U. S. Employment Service were given a ten weeks training course in weaving. This course of training covered all operations from the raw cotton yarn to the finished product.

When they stepped into the factory they not only knew *how* to do the particular job to which they were assigned but they also knew *why* which made them much more intelligent and efficient workers in a much shorter time than we had thought possible.

THE RUSSELL MANUFACTURING COMPANY
MIDDLETOWN
CONN.

The real worth of long-term training has been brought home to us.

United States Rubber Company
NAUGATUCK FOOTWEAR PLANT
NAUGATUCK, CONNECTICUT

September 17, 1943

Mr. L. M. Bingham, Director of Development
Manufacturers' Association of Connecticut, Inc.
Hartford, Connecticut

Dear Mr. Bingham:

Knowing your interest in Connecticut industry and realizing the critical manpower condition in this area, I thought you might be interested in our attempt to combat the problem.

We strongly feel that training heads the list of aids in getting greater quality production in less time. Management often questions those efforts which produce somewhat intangible or long-term results.

The Naugatuck Footwear Division of the United States Rubber Company has always recognized the value of training. Today, when confronted with the changes, increases, and interruptions of war production, the dubious intangibles have become vivid dollar and cents advantages. The real worth of long-term training has been brought home to us.

Not only our own program but the government-sponsored Training Within Industry sessions have pointed out again how instrumental training has been in keeping the worker satisfied, in getting higher quality, in shortening the orientation period, in getting more production faster, and in making the best use of the people we do have.

It is our sincere belief that if industry does concentrate on holding what help we do have through more and better training, we will be doing a lot to speed up the war of production and hasten victory.

Sincerely yours,

H. L. Carter

H. L. Carter
Factory Manager
Naugatuck Footwear Plant

United States Rubber Company
NAUGATUCK FOOTWEAR PLANT
NAUGATUCK 2 CONNECTICUT

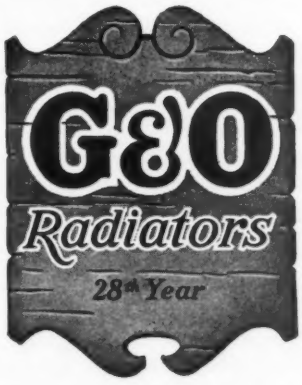
QUALITY AND PRODUCTION STEPPED-UP BY TRAINING PROGRAM

WHEN TWI offered its Job Instructor Training program, we decided to give it a trial. The results were so good in improving the attitude of supervisors that we are now giving the training to all our supervisors. New workers are now trained more rapidly than ever before.

Since the inauguration of Job Methods Training, the number of suggestions received have been increased by 400%—and the quality of new ideas improved.

A number of our employees, including our superintendent, have completed several of the E.S.M. War Training Courses given at New Haven Junior College. The benefits have been noteworthy both to management and to employees who completed the courses.

"There is no question in our minds but that training programs relate to the war production problem in a very practical manner and have resulted in concrete advantages along three specific lines: first, in getting production started quicker; second, in getting more production with a given number of workers; third, in getting a uniformly higher quality product."



This advertisement is sponsored by the G & O Manufacturing Company, New Haven, in the interest of promoting the Connecticut-wide adoption of training programs as an aid to better, faster, more efficient war production.

Apprentice Class at Farrel-Birmingham Ansonia Plant.

WHY WE TRAIN OUR OWN

The question has been asked, "Why does Farrel-Birmingham Company, Inc., conduct an overall program of training within its own organization?" The answer could be made very complicated but fundamentally it is simple and obvious—*we train to survive.*

For nearly a century, Farrel has maintained an apprentice training program, developing its own skilled craftsmen, a group from which many have been drawn to fill key positions in management and in the shops.

Recognizing the increasing mechanization of industry and the resulting complexity of the heavy machinery which constitutes its products, the management decided to increase the scope of its training program. In 1934 it employed a supervisor of training and provided a fully equipped classroom within the plant.

The classroom soon became the educational center in the organization. Here the apprentices and trainees receive instruction on company time, in mathematics, English, mechanical drawing, and in the various shop subjects related to the machine and foundry trades. Classes and meetings are regularly held in foremen training, better supervision, first aid, employee safety and the many morale building activities so necessary to the success and usefulness of a large manufacturing plant of today.

For equipment, and in conducting its training program, the company has not spared expense or effort. Apprentices, trainees and learners are faithfully routed through the shops under expert supervision, in accordance with the training procedure and the company agreements with the respective groups. A comprehensive system of personnel and job rating is maintained, and upgrading of employees is closely watched.

Regular technical instruction is supplemented by the best in visual education and the free use of the company library of shop books and magazines. Employees are encouraged to attend evening school and to enroll for home study courses, and the company gives them every possible assistance. Their progress is reported to their immediate supervisors, the plant manager and the president of the company, so that as they give evidence of ambition, initiative and persistence their efforts may not go unrecognized.

In these critical times we are grateful to the many women, older men and young boys who have come into our plant to help us produce equipment needed by our armed forces. At all times we highly value our manpower and we endeavor to bring each and every worker up to his or her best by adequate training. We administer this training sympathetically and helpfully in the sincere hope that they may not only become more valuable employees, but that they may be better citizens and that their lives may be lived more fully.

FARREL-BIRMINGHAM COMPANY, INC.
ANSONIA, CONN.
Plants: Ansonia and Derby, Conn., Buffalo, N. Y. — Branch Offices: New York, Buffalo, Pittsburgh, Akron, Los Angeles

HOW *ONE SHORT CUT* SAVED 8100 HOURS FOR UNCLE SAM

In the first week of Job Methods Training at Electric Boat Company, one job which used to consume four men's time was so improved that it can now be done by one man. The savings effected totalled 8100 man-hours per year figured on a 300-day year and more than offset the time taken from regular duties by our supervisors taking the course.

Due to Electric Boat Company's accelerated production schedule, our apprentice training course was reduced to 8,000 hours, an action which led to a greater use of the excellent ESMWT courses. During the past year approximately 750 employees have been trained through courses for elementary and advanced electricians, elementary and advanced sheetmetal working, pattern drafting, industrial supervision, engineering drawing, engineering and shop mathematics, cost accounting, production control and physics.

While daily in-plant training groups of learners are receiving instruction, it has been found that the State Vocational Schools are most helpful in assisting these learners to grasp modern production knowledge. In these schools, many of our learners have taken courses for electricians, blueprint reading, silver brazing and acetylene welding.

Training Within Industry's JIT courses were started in January, 1943. Since then 700 job instructors have been authorized, of which 450 are supervisors and the balance experienced employees.

Belief in the value of JIT led to the introduction of Job Methods Training in August, 1943 and since then two-thirds of our supervisors have been certified by the War Manpower Commission. It is expected that the program will be completed this month.

We are convinced that the production knowledge required today must be obtained by an intensive use of all types of training facilities combined with in-plant instruction.

ELECTRIC BOAT COMPANY

GROTON, CONNECTICUT

Taking the guesswork

OUT OF JOB ASSIGNMENT

AT a meeting of Atwood foremen some months ago, it was brought out that time was wasted in bringing inexperienced women directly into the machine shop and trying them out at various jobs. In one case, eight months passed before the supervisors found the best job for the worker.

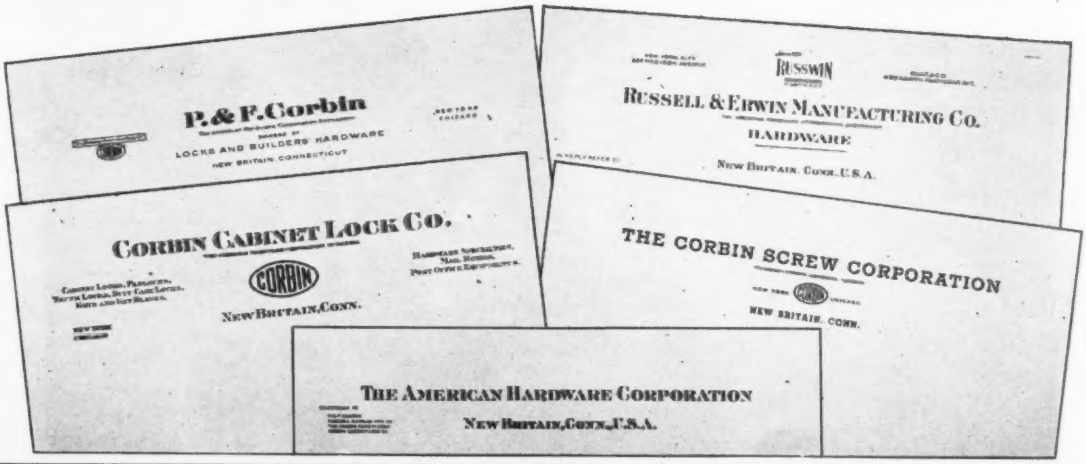
With the idea of shortening this trial period, the help of the War Production Training Division of the Connecticut Vocational Department was sought. A small, separate training department was recommended and the machines and instructors provided. Inexperienced girls receive five weeks special training under these capable instructors. The work in the training department is on simple production jobs where experience is acquired in operating machines. Supervisors can thus determine the particular abilities of the trainees before they are assigned to specific jobs in the factory.

Supervision has likewise been improved by the Training Within Industry courses in which more than fifty of the Atwood executive and supervisory staff participated. To take care of particular upgrading needs, Engineering, Science, Management War Training courses were instituted.

ATWOOD

THE ATWOOD MACHINE COMPANY

STONINGTON, CONNECTICUT



"SYSTEMATIC TRAINING AN ABSOLUTE NECESSITY FOR NEW EMPLOYEES"

OUR solution of the problem of training thousands of new workers was to train first the employees we already had. These older employees were trained to teach the newer employees in the skills they knew so well.

Our first objective was the training of the supervisory forces and the pressure upon these hard-working people has not yet been reduced. They are still undergoing training.

We have used such training facilities as have been afforded by the state and federal government, as well as private services, sometimes with conspicuous success. Our training programs throughout have been based upon the assumption that every employee is a separate and distinct individual, and that he or she must be treated as such. Therefore, we could not be expected to approve wholeheartedly of the "packet" type of instruction and material supplied by some agencies.

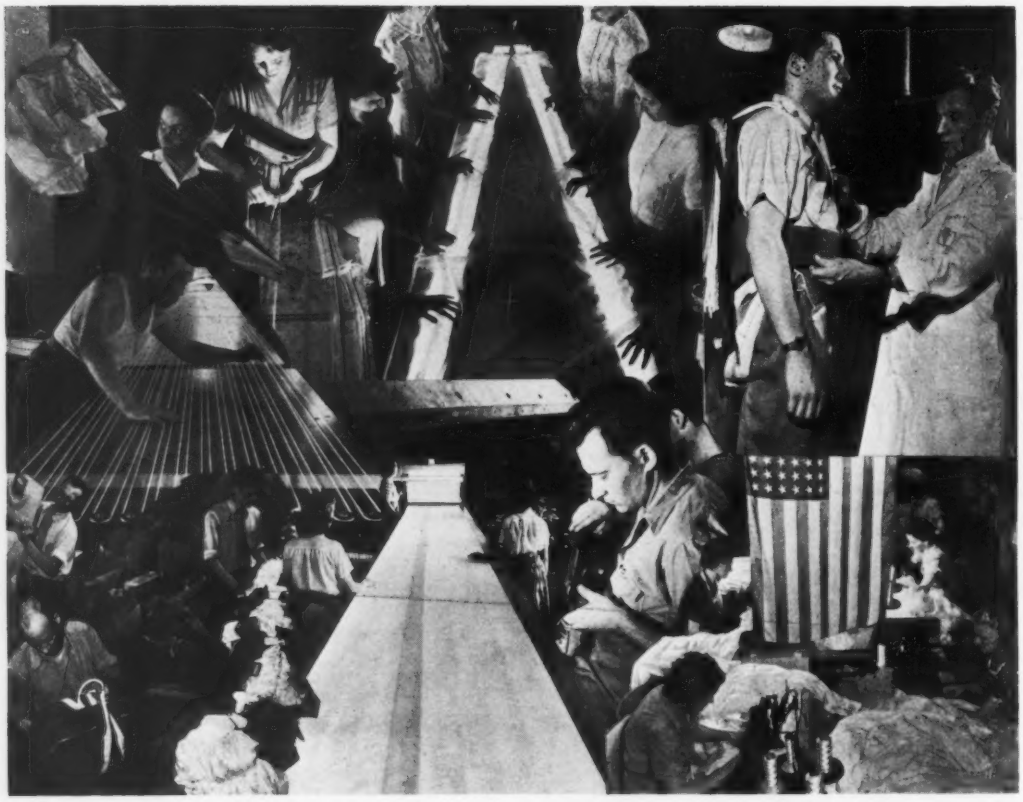
Nevertheless, such material has proven extremely useful as a basis. We have found, for instance, that discussions based upon material for a highly concentrated course have been singularly effective in Job Relations Training. In general, we have found that *systematic training* is *an absolute necessity for new employees*, whether it is of the vestibule or the on-the-job type.

We may yet discover that with proper indoctrination and testing of new employees, the on-the-job training is most effective. This is based on the supposition that the supervisory force and the instructors on the job are competent, and that the indoctrination of new employees is not hurried unduly. There will always be some skills which will be acquired more rapidly if the first stages are carried on in a vestibule school.

In the American Hardware Corporation, both vestibule and on-the-job training methods are carried on. Perhaps the class of training of which we may have most reason to be proud is that of the development groups. These groups are composed of younger men who will lead others in days to come.

GEORGE T. KIMBALL,
President, The American Hardware Corporation.

THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONN.



"KNOW HOW" and "KNOW WHY"

. . . the production team that delivers!

From the drafting board to the final step in the rigging of parachutes, every detail in their manufacture must be exact; and every person must be proficient to the "*n*th" degree. This calls for technical training and constant supervision.

To this "know how", Pioneer Parachute management has added a generous portion of the important personal element of "know why". Pioneer Parachute men and women have a better understanding of the part played by their parachutes in the war. The "know how" plus the "know why" gives workers a new impetus, a desire for self-improvement and a consummate pride in their share in our ultimate victory.

We believe in training.

We believe in explaining.

That's our formula for "Excellence in Production".

PIONEER PARACHUTE COMPANY, INC.

MANCHESTER, CONNECTICUT, U. S. A.

CABLE ADDRESS: PIPAR. TELEPHONE: Manchester 4157

NEWS FORUM

This department includes digested news and comment about Connecticut Industry of interest to management and others desiring to follow industrial news and trends.

A TECHNICAL ADVISORY SERVICE to serve the interests of small plants has been established by the Smaller War Plants Corporation, according to Richard C. Cooke, Regional Director of the SWPC, Region I, which takes in all New England. Mr. Cooke has appointed Malcolm S. Jones as Technical Advisory Consultant to devote his full time to this service.

The Service will put at the disposal of the small manufacturer who requires technical research in the solution of a production problem information drawn from governmental agencies, trade associations, technical and scientific organizations, technical magazine editors and the research laboratories of educational institutions and private industry.

Inquiries on any subject may be submitted. Technical Advisory Service does not engage in industrial research or testing, nor does it compete with professional organizations of that kind. It is, in effect, a clearing house whose chief function is to arrange a contact between small manufacturers and those who can supply the desired information.

In a few isolated cases, where the nature of the information sought is such that it can be obtained only from commercial testing laboratories or professional service organizations, the technical advisory consultant will recommend several recognized leaders in that field with whom the applicant can discuss cost of service directly. Otherwise Technical Advisory Service is without charge to all small manufacturers.

"Frequently the lack of a single ingredient of technical information in a plant has resulted in a lost contract and one of the basic difficulties of small manufacturers has been a lack of adequate research facilities to meet the present-day production problem," Mr. Richard C. Cooke stated.

"The war effort today, more than ever in view of current events overseas, can ill afford to lose the productive capacity of a single manufacturer," he added, "and for that reason we are eager that all small manufacturers shall take advantage of the Technical Advisory Service, which is available to them at their nearest Smaller War Plants Corporation District Office.

★ ★ ★

ELBERT A. PEARSON, New Haven advertising man, has been appointed manpower representative of Connecticut War Council, according to announcement by War Administrator Harold F. Woodcock. Mr. Pearson's first assignment is to assist in the recruiting of women workers for industry, said Mr. Woodcock.

Mr. Pearson had been advertising manager of Shartenberg's New Haven department store for the last six years and formerly had been employed in retail advertising in Stamford, Newark, New York and Philadelphia. He is a native of Brooklyn, attended New Jersey public schools and studied at New York University.

★ ★ ★

AVIATION HISTORY was made at Pratt and Whitney Aircraft Division of United Aircraft Corporation, East Hartford, Sept. 24, when the 100,000th "Wasp" engine was prepared for shipment. The event was observed at open air ceremonies attended by Army and Navy officials.

On exhibition was the milestone-marking 100,000th engine, the first "Wasp" engine of 1925 vintage, examples of seven engines in current production, and fighter, bomber and transport planes powered with Pratt and Whitney engines. Thousands of employees witnessed the program.

★ ★ ★

FARREL - BIRMINGHAM COMPANY, has received its third renewal of the Navy "E" for continued excellence in the production of equipment for the Navy. Each of the company's three plants at Ansonia, Derby and Buffalo is privileged to fly the "E" flag with three white stars indicating the receipt of this award for four consecutive six-month periods.

★ ★ ★

PAUL G. NILES, assistant secretary and purchasing agent of the Sessions Foundry Company, Bristol, died Sept. 24 after a short illness. He was born in Bristol and resided there all his life.

After being graduated from high school, he entered the employ of the Session Foundry Company as a stenog-

CHESTERFIELDS in Service Overseas

Thanks to a patriotic desire of the Liggett & Myers Tobacco Company, a way has been found to deliver smokes to the boys overseas with all the famed Chesterfieldian freshness unimpaired.

Robertson's well-known flair for helping customers find solutions to difficult packaging problems is evidenced again in the Chesterfield OVERSEAS Folding Paper Box, made to meet government regulations as to size and weight of parcels, and sealed with a label that keeps it tight.

Why not let us turn that "flair" loose on a packaging problem for you?

ROBERTSON PAPER BOX COMPANY
MONTVILLE, CONN.
NEW YORK OFFICE 420 LEXINGTON AVENUE

HEWITT RUBBER* UPS OUTPUT 75% TO NEW HIGHS

ON VITAL SELF-SEALING FUEL TANKS

It was an urgent demand—self-sealing fuel tanks in greatly increased volume to keep pace with the production of combat planes...

Hewitt, "specialists in rubber," accepted the assignment...went to work with Plocar engineers, "specialists in production."

"Results," states Thomas Robins, Jr., President of the Hewitt Rubber Corporation, "have been exceedingly satisfactory. What seemed the impossible has been accomplished. Production kinks were straightened out, *existing equipment and space* utilized more efficiently; the cost *and delay* of new buildings was avoided. Output reached a level nearly double our best previous record and is still on the upgrade."

Full cooperation—plant engineers with the Plocar staff—contributed in a large measure to this achievement... Similar Plocar assistance is available to plants faced with production problems. Write,

* in cooperation with

JOHN J. PLOCAR COMPANY
Singer Building, Stamford, Conn. : Tel. Stamford 3-6815
Representatives in principal industrial areas
BUSINESS AND INDUSTRIAL MANAGEMENT CONSULTANTS
Boston Office 238 Park Square Building Boston, Mass.

PLOCAR ENGINEERS

rapher and clerk in the purchasing department, being hired by the late William E. Sessions. At the time of his death he had worked for the foundry for 23 years. He had been purchasing agent for the past several years and was elected assistant secretary this year.

★ ★ ★

COL. HERMAN W. STEINKRAUS, president and general manager, has announced that Bridgeport Brass Company subscribed $2,500,000 to the Third War Loan Drive. Of the amount $1,900,000 will be credited to the Bridgeport plants, $100,000 to the company's ordnance plant in Indianapolis, Ind., and the balance credited in New York City.

★ ★ ★

CONSOLIDATION of Eagle Lock Company of Terryville and Bowser, Inc., of Fort Wayne, Ind., has been completed. Under the new set-up, officers of Eagle Lock remain the same, except that R. H. Damon, Bowser president, becomes chairman of the board, and Wilfred R. Smith, former assistant treasurer, becomes secretary-treasurer. Eagle Lock will continue to operate under its present name and will continue to be located in Terryville.

Other officers of Eagle Lock are George J. Macklin, vice-president; Rollin B. Plumb, vice-president, and Otis B. Hough, assistant secretary.

Serving as directors for both Eagle Lock and Bowser are: Mr. Damon, chairman; E. D. Eggiman, E. C. Marsh, M. Barrett, Jr., John M. Young, H. M. Preston, F. E. Beatty, Neil A. McKay, Frank W. Brokamp, J. Carleton Jones, S. V. Zavoico, Mr. Plumb and Mr. Murphy.

★ ★ ★

JOHN E. EGAN, veteran secretary of Connecticut Federation of Labor, will remain in that post as a result of a decision by International Association of Machinists to return to American Federation of Labor. Egan, a member of the Machinist Union, was re-elected at the state convention recently but fear was expressed that he would be forced to give up the position should the American Federation vote to suspend the Machinists. The action of the latter group in returning to the Federation clears up Mr. Egan's status.

★ ★ ★

TEN INQUIRIES from Latin American merchants about local markets for

their merchandise have been received by Hartford Chamber of Commerce. They are the result of circulars sent some time ago by the chamber to South and Central American chambers of commerce inviting inquires about Hartford markets. Six of the inquiries came from Cuba, two from Mexico, and two from Uruguay. Commodities offered for sale include perfumes, shoes, women's fans, wooden bead rosaries, candy, honey and liquor.

★ ★ ★

THE CONNECTICUT WAC recruiting drive aimed at enrolling 900 women by Dec. 7 was nullified by State Manpower Director William J. Fitzgerald who forbade further recruiting of WACS in this state's critical manpower areas—Bridgeport, Waterbury, Meriden, New Britain, Bristol and Hartford. WAC recruiters indicated this spelled virtual defeat of their drive as a large number of women in Connecticut are concentrated in the designated areas.

★ ★ ★

BIGELOW COMPANY of New Haven, largest manufacturers of steam boilers in New England with a history dating back 110 years, has just completed a modernization program.

Recognition of the fact that fusion welding of steel plates by electric arc process is equal to and in most cases superior to the usual riveted construction led the company to install equipment necessary to build steam boilers according to this modern construction.

Fusion welding by electric arc process consists of actually uniting the prepared edges of plates by employing an electric arc of controlled voltage and amperage between the plates and a steel electrode. The electrode is melted by the extreme heat of the electric arc thus fusing to the edges of the plates and filling in the space between them, resulting in a solid metal joint equal and often actually stronger than the plate itself.

However, before this method of joining steel plates together could be adopted for use on steam boilers, unfired pressure vessels, engine parts, etc., a tool was needed to determine the actual soundness of the weld to be sure it was sound. Such a tool was found in the modern industrial X-ray machine.

Bigelow installed a 200,000 volt industrial X-ray unit which is capable of "seeing through" steel plate up to 2½ inches thick. With this unit X-ray films or radiographs are made of the entire length of the weld on a pressure vessel or boiler drum built to code rules. Using the proper techniques, films can be made with a density that will show up defects to within 2 percent of the plate thickness thus making it possible to be assured that the welded joint is at least 98 percent as strong as the parent metal.

When melted metal solidifies and cools it contracts. During the welding process this actually takes place producing certain locked up stresses in the metal after cooling to normal temperature. In certain unfired pressure vessels and all boiler drums built to code requirements it is necessary to normalize or stress relieve. This is done by putting the object in a furnace and gradually heating up in an even manner to 1,200 degree F, holding that temperature for a period and then cooling slowly to normal temperature.

The furnace installed at Bigelow for this purpose is a car bottom type. Objects up to 25 tons in weight may be placed on this car and rolled into the furnace. The operation of the furnace is ideal in performance in that the controller can be set to bring the temperature up in graduated steps through any range of time desired, thus heating up the work gradually and evenly to the usual stress relief of steel, 1,200 degrees, which is highly desirable to secure a uniform stress relief of the object.

★ ★ ★

"THE BRUSH-OFF", a paper 9 by 12 inches printed on magazine stock,

PLAN TO ATTEND

THE INDUSTRIAL TRAINING CONFERENCE

sponsored by

The Committee on Manufacturing Connecticut War Council

Woolsey Hall, Yale University

New Haven, Connecticut

Friday, December 3rd—10 A. M.

PHONE GA 2-0193

The Graphic Arts Company

HARTFORD

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PHOTO · ENGRAVING · DIRECT MAIL ADVERTISING

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Card Files

All in Stock

LOCKERS

4-6 Weeks Delivery

Special Coat Racks

LAST CALL!

7-D Steel Counterheight

4 x 6 Card Files

Executive Furniture

BARNEY'S

HARTFORD, CONNECTICUT

TELEPHONE 7-8129

VARI-TYPER

THE OFFICE COMPOSING MACHINE WITH VARIABLE TYPES & SPACING

SAVE MAN-POWER

Vari-Typer Engineering Model and a good typist can save 70% of your draftsmen's lettering time.

SAVE CRITICAL MATERIALS

In composition of bulletins, parts lists, operating instructions, forms, etc. Vari-Typer's ability to condense results in tremendous savings in labor, paper, stencils, plates, ink, duplicating and photo equipment. Vari-Typer automatically squares right hand margins.

FOR FURTHER PARTICULARS

RALPH C. COXHEAD CORPORATION

57 PRATT ST. · HARTFORD

TEL. HARTFORD 6-5560

4948

is being issued by employees of Fuller Brush Company and represents one of the latest employee publications to appear hereabouts. The third issue, contained in four pages, featured news of a victory radio quizz in which five Fuller Brush employees participated. In addition the paper carried club news, letters from employees now with the armed forces, feature articles and columns, among other things.

★ ★ ★

A MINIMUM of 15,000,000 tons of iron and steel scrap is required in the last half of this year to maintain current production rates, according to federal officials encouraging the Iron and Steel Scrap Drive launched Oct. 1. Maintenance of peak steel making capacity depends on meeting this goal, says Robert P. Patterson, undersecretary of war.

★ ★ ★

PATRICK F. BRAZEL is now in his 68th year with Case, Lockwood & Brainard Co., Hartford. The veteran, who is 81 years old, began as an office boy Sept. 15, 1876, and has remained with the company since. He explains his long stay with the company simply by saying, "They have been good to me." After serving in the shipping room, he became a paper cutter in which job he has remained since 1885.

A son, Frank A. Brazel, is plant superintendent for the company and himself has been with the firm 39 years.

★ ★ ★

A CO-OPERATIVE PLAN of group insurance has been adopted for employees of Rhode Island Worsted Company, Stafford Springs, and underwritten by Ætna Life Affiliated Companies, Hartford. Under the plan each employee is entitled to group life, accidental death and dismemberment insurance, sickness and accident insurance, and hospitalization benefits.

Benefits are provided at a much lower cost than could be obtained individually. From Sept. 20 through Oct. 19, the company paid the entire cost of the program. After the latter date the insurance was continued on a co-operative basis with the company and employees sharing the premiums.

★ ★ ★

L. METCALFE WALLING, administrator of the Wage and Hour and Public Contracts Division of the United States Department of Labor, maintains that workers leaving factories for the firing line are being replaced at an alarming rate by child labor, a large percentage of which is less than 16 years old.

He made this statement in Hartford on a recent official visit to the division's field office there. During the day he made a tour of Hamilton Standard Propeller Division of United Aircraft Corporation and had luncheon at the Hartford Club with leading Connecticut industrialists. During the evening he teamed up in a radio broadcast with Alfred C. Fuller, president of the Manufacturers Association of Connecticut.

★ ★ ★

EMPLOYMENT and manhours in Hartford, New Britain and Bristol districts showed a declining trend during September, according to the Manufacturers Association of Hartford County.

Employees in 82 plants of the districts were down 628 for the month to a total of 121,329, or 2.3 percent below 122,969 a year ago. Manhours aggregated 23,989,712, a drop of 95,267 compared with the previous month and of 297,000 contrasted with 1942.

★ ★ ★

SEVERAL HAMILTON STANDARD Propeller men have just returned from the battlefields with a story of "where there's a will there's a way." The men are Charles Stollo, James Bray, Jerry Goodrich, of the East Hartford shops, and George Bastedo of the Westerly, R. I., Division.

The story as they tell it follows:

Twenty-six technicians from Hamilton Standard Propellers were landed at an inland base in far-off Eritrea a year ago last March and instead of finding the complete equipment they needed to service scores of Army planes were

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From Production Line to Firing Line they hold with a grip that never lets go!

All the way from production machines to battle machines—there's the line of duty of the ALLEN Line. "Allens" hold together machine tool assemblies and the weapons these tools produce; they keep mechanisms solidly intact on production line and firing line.

The entire Allen battle line—*"prcssur-formd"* Cap Screws, the *original* cold-drawn Hollow Set Screws, socketed Flat Head Cap Screws and Pipe Plugs, *Tru-Ground* Shoulder Screws and Dowel Pins — is dedicated and qualified to hold all gains in machine and arms development.

Order through your local Allen distributor—the man who gets the goods to the limit of the supply.

THE ALLEN MFG. COMPANY
HARTFORD, CONNECTICUT, U.S.A.

obliged to rely on nothing but a few copies of general service manuals and a scattering of pocket tools.

Almost an entire shipload of heavy equipment required to service airplane propellers, including machinery, spare parts, blue prints, fine tools and instructional data, had been torpedoed and was resting at the bottom of the Atlantic when the Hamilton Standard men arrived at the Douglas 19 Project, 25 miles from the Eritrean port of Massawa.

Despite the staggering task which faced the propeller technicians not a single plane was ever turned away unserviced. With their own hands the men built the heavy and intricate tools necessary to do the job. Among the equipment turned out under the pressure of improvisation were bending fixtures, twisting fixtures, balancing stands, dome wrenches, dome slings, protractors for measuring blade angles, protractors for cold bend limits, pliers, utility wrenches, propeller racks, and grinding discs.

With these handmade materials, many of them from angle iron and scrap left by the beaten Italian air force, scores of U. S. planes were serviced at the base and in the field nearby. A number of British planes were also serviced.

RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., Bridgeport, has been awarded the coveted Army-Navy "E" for excellence in war production. The formal presentation was made on the company's grounds at East Main Street, Stratford, attended by more than 1500 workers and guests. Governor Raymond E. Baldwin, Brig. Gen. Thomas Troland, Lt. Commander William M. Cashin praised the workers and management for their efforts. Robert B. Davis, general manager of the Raybestos Division, in accepting the award, pledged continued all-out effort.

The following list indicates the sources from which photographs requiring credit were gathered:

Cover—Harold M. Lambert, Philadelphia.

Page 6 (Bottom)—Hartford Courant.

Page 7—Bridgeport Brass Company

Page 8—Official OWI photo by Bransby.

Page 9—Official OWI photo by Palmer.

Page 15—Apprentice Training Service, Bridgeport—Photo by Harold Yanosik.

Page 18 (left) Photographic Division, Connecticut State Police.

Page 20—Pratt & Whitney, Division, Niles-Bement-Pond.

Page 36—H. B. LeQuatte, Inc., New York.

Page 40—James Pickands, II.

RAYBESTOS-MANHATTAN Army-Navy "E" ceremonies at Bridgeport. L. to r., front row, PFC Louis Rybokas, Michael Robstock, Mary Rajatte, William Craw, R. B. Davis, General Manager, and Brig. Gen. Thomas E. Troland.

FOR EXCELLENCY and efficiency in the production of capacitors, Electro Motive Manufacturing Co., Willimantic, on October 5 joined the select group of Army-Navy "E" recipients.

Said Major James I. Heinz, acting labor officer in the office of the chief signal officer, Washington, in presenting the "E" flag, "Without capacitors, radios would be useless. The capacitors you make help 'get the message through' which gives the signal when to shoot, where to shoot and whom to shoot." Without capacitors, invasions and bombing raids could not be effectively coordinated, he added.

Governor Baldwin, principal speaker, stated, "The home front has no higher honor than that which you receive today. And there can be no higher praise than that which is symbolized by the 'E' pin. The presentation of the 'E' means that your work has won this award. That pennant flying over your plant means that you have kept faith with our fighting forces."

The "E" burgee was accepted on behalf of the company by Mrs. Josephine Lauter, wife of the president, Philip Lauter.

Miss Helena Drescher, whose brother, Sergeant Arthur W. Drescher, paid the supreme sacrifice in the South Pacific area, represented the employees. Staff Sergeant Donat Doiron of Willimantic, who is home recuperating from wounds received in the southwest Pacific area, pinned token pins on Miss Drescher, Miss Doris Whitmore, sister of Sergeant Bertrand Whitmore, first member of Co. L, 169th Regiment to lose his life in the present war; Miss Nellie Macione, Miss Blanche Vincelette and Ludwig Reinhardt, Jr.

★ ★ ★

N. W. FORD, Traffic Manager of the Manufacturers Association of Connecticut, told the House Rivers and Harbors Committee at the hearing on the Enfield Dam project recently that manufacturers on the Connecticut River above Hartford are even more vehemently opposed to the Enfield project now than they have been in the past. These manufacturers fear, Mr. Ford said, that the proposed development will interfere with the water rights they now have, and that it will bring no benefits to them. Lack of any complaints from manufacturers on electric power rates, he said, "is convincing evidence that manufacturers are satisfied that the present rates are not excessive."

Mr. Ford said he wanted to "dispel any thought that there is any feud between Connecticut and our neighbors to the north." Witnesses for the project from Springfield and Chicopee urged the chance for better transportation facilities for those cities as one of the reasons for the project, which would include making the river navigable to Holyoke, as well as the power project at Enfield. "So far as I know," Mr. Ford said, "the Connecticut manufacturers located along the river above Hartford are not in competition with manufacturers located along the river in Massachusetts and even though similar products were manufactured in both communities in the two states, it would still be a matter of record that our chief competition is with manufacturers located in the Middle West rather than those in nearby cities."

"We are convinced," Mr. Ford said, "that the necessary expenditure would be unsound and would place an undue burden upon taxpayers and would not be attended by any corresponding benefit either from the transportation or the power standpoint."

PRINCIPALS at Electro-Motive Manufacturing Co. "E" ceremonies, l. to r., Staff Sgt. Donat Doiron, Mrs. Philip Lauter, Lt. Col. James L. Conrad, Doris Whitmore, Governor Raymond E. Baldwin, Blanche Vincellete, Helena Drescher, Lt. Com. Raymond Fish, Nellie Macione, Major James I. Heinz, Lt. Col. Olson, Philip Lauter, Leo J. Healy, Ludwig Reinhart.

★ ★ ★

THE ANNUAL MEETING of the Norwich Manufacturers' Association will be held the second Tuesday of October in each year. The meetings for the 1943-44 season will be held on the second Tuesday of each of the following months:

December, 1943; February, 1944; April, 1944; June, 1944; August, 1944.

The annual dues are as follows: the basis for assessment is a rate of ten cents per employee per year with a minimum yearly fee of $15.00 per manufacturer, and a maximum yearly fee of $100.00 per manufacturer.

★ ★ ★

INDICES OF EMPLOYMENT and man hours in the Hartford, New Britain and Bristol districts showed a downward trend during September although on a relatively small scale, according to a recent monthly report of the Manufacturers Association of Hartford county.

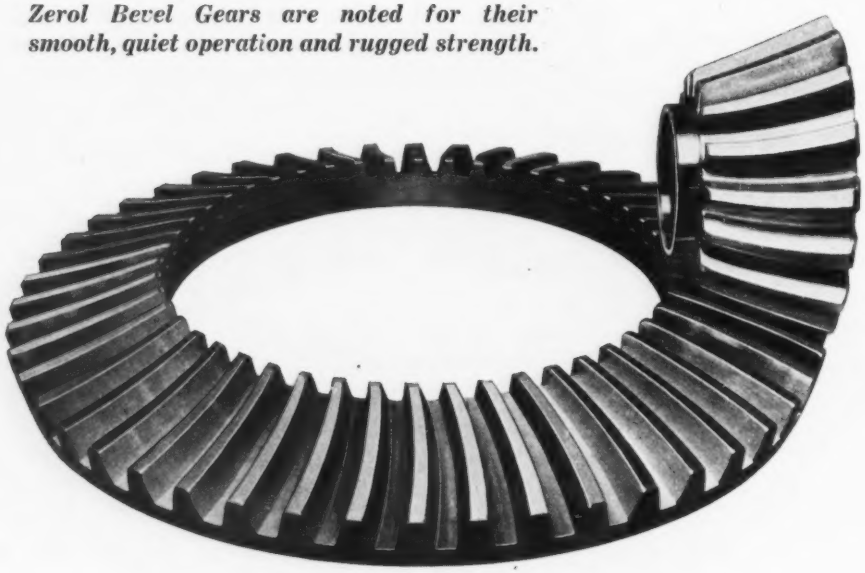
The number of employees in 82 reporting plants was down 628, from August, and man hours dropped 95,267 from the previous month. The New Britain area had the largest net loss. Many workers transferred to plants in other districts in the state.

Analysis of reasons given for separations included: leaving town, 28.5%; dissatisfaction over wages, night work or inability to do job, 17.6%; health, 16.6%; home obligations which included marriage and child birth, 14.1%. 4.6% said they were taking other positions and 16.5% gave no reason for leaving.

. . . AND NOW GRAY

Zerol Bevel Gears up to 16″ diameter to meet transmission requirements

Zerol Bevel Gears are noted for their smooth, quiet operation and rugged strength.



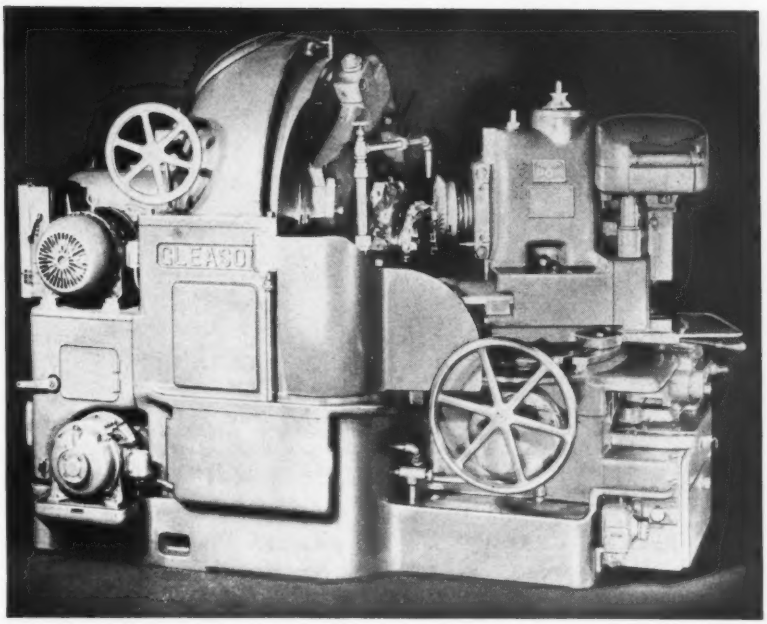
"GRAY" has long been a familiar name on Telephone Pay Stations, Recording Machines and quality metal spinnings. And during the war Gray has produced many electrical and mechanical devices and apparatus essential to the armed forces. Now the Gray Manufacturing Company has installed the very latest gear cutting equipment and is prepared to fill your requirements for Zerol Bevel Gears up to 16″ in diameter.

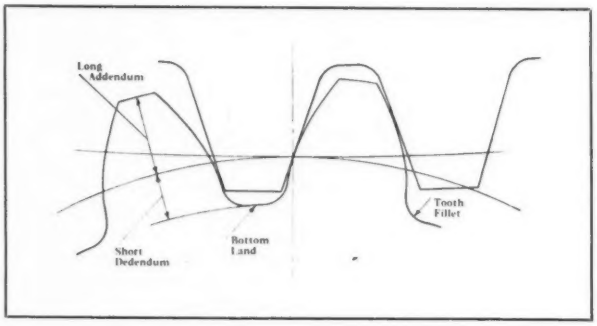
Zerol gears are curve-tooth bevel gears with zero-degree spiral angle. They combine the localized tooth contact of spiral bevel gears with the low thrust loads of straight bevel gears. Localized tooth contact results in smoothness, quietness and strength even under extremely heavy loads. For these reasons, Zerol gears are replacing straight bevel gears in many applications where thrust limitations prevent the use of spiral bevel gears.

NO INWARD AXIAL THRUST: Like straight bevel gears, Zerol gears have the advantage of no inward axial thrust under any conditions. In fact, with zero-degree spiral angle, the thrust loads are the same as for equivalent straight bevel gears with the result that Zerol gears can be substituted for straight bevel gears without change in thrust bearings.

OFFERS GEARS!

This is the Gleason No. 16 Hypoid Generator which is used by Gray to cut Zerol Bevel Gears. Several important features are incorporated in this machine, including an improved type of cutter cradle mounted on roller bearings, reversing and indexing mechanisms free from noise and vibration, straight line movement of the work into the cutter, and other modern improvements. The machine produces a more desirable tooth bearing and finish on the work than could be obtained on any previous machines.





TOOTH PROPORTIONS: Zerol gears, like other bevel gears, are designed with long and short addendum tooth proportions for smooth, quiet operation, and with large filet radii for maximum strength.

If your requirements call for gears of this type, we will be glad to give you the benefit of our experience and the use of our excellent gear cutting equipment. An inquiry will permit us to determine whether we can be of help. Write or telephone Mr. Froelich, our Production Manager, at the address below.

THE GRAY MANUFACTURING COMPANY

W. E. Ditmars
President

Plant and General Office, 16 Arbor St., Hartford, Conn. 3-5258
New York Office, 230 Park Ave., New York City, Murray Hill 3-9772

BOTWINIK BROS. Army-Navy "E" presentation. (l. to r.) Lt. Commander R. W. Rose; Rear Admiral W. T. Cluverius; Peter DeVit, superintendent; Lt. Colonel T. L. Hapgood; Mayor John W. Murphy of New Haven; Governor Baldwin and Samuel Botwinik, president of the company.

IN A RECENT CEREMONY at Hamden, the Army-Navy "E" pennant was presented to Botwinik Brothers, Inc. The award was presented to Samuel Botwinik, president of the firm by Rear Admiral Wat T. Cluverius, USN (Ret.) Among the guests were: Honorable Raymond E. Baldwin, Governor of Connecticut; Honorable William L. Hadden, Lt. Governor of Connecticut; Honorable Kenneth Wynne, Judge of Superior Court, State of Connecticut and Honorable John W. Murphy, Mayor of New Haven. Peter DeVit, superintendent of the firm, accepted the award on behalf of the employees.

The concern is one of America's foremost machine tool rebuilders.

★ ★ ★

JOHN H. GOSS, president of Scovill Manufacturing, recently told a gathering of employees at a war bond rally that the concern had been awarded it's second renewal of the Army-Navy "E" pennant. Mr. Goss challenged the workers to match their production record with a war bond buying record.

"The Scovill Co., has successfully met every obligation to the government on quality, quantity and delivery to merit the award by Undersecretary of War Robert Patterson," said Mr. Goss.

Gerald Frank, war correspondent for the New York Journal-American, who has written a collection of stories about the Guadalcanal campaign, told of boys on the Pacific island during the heat of battle "living on maggots, spoiled fishheads and rice."

★ ★ ★

REMINGTON ARMS CO., of Bridgeport recently announced that it is manufacturing a new type of incendiary ammunition for 50-caliber machine guns mounted on Allied planes. According to report the ammunition is "the most devastating ever produced for aerial warfare."

General H. H. Arnold, commanding the Army Air Forces, is quoted as describing the ammunition as "the outstanding small arms development for use against airplanes" and one that has made the 50-caliber machine gun the best weapon yet discovered for aircraft.

General Arnold stated that self-sealing gasoline tanks had made tracer ammunition ineffective in setting fire to aircraft. The new bullets penetrate the self sealing tanks and explode in the fuel. They spread a sheet of flames many feet in diameter and cause enemy planes to burst into flames on impact.

Generated by chemicals in the bullets, the flame burns at blast furnace temperature. Armor plate that can resist the projectile is too heavy for aircraft.

★ ★ ★

PANISH CONTROLS, a concern with about twelve employees located in Bridgeport, has been awarded the six months White Star to be affixed to its previously won Army-Navy "E" pennant for outstanding service to the country's war effort.

Erwin J. Panish, aided by son Robert and "Grandpa" Paul, manufactures a device known as remote engine controls for marine use which performs miracles in the handling of boats.

Details are necessarily a military secret. The concern has not had a single rejection nor any record of failure since the first installation in navy craft despite the severe specifications which it has to meet.

The ceremonies were attended by Governor Raymond E. Baldwin and Mayor Jasper McLevy.

★ ★ ★

THE BRAINARD AND ARMSTRONG mill property in Norwich has been leased to the Plastic Wire and Cable corporation for war work. L. W. Lord is president of the concern and M. H. Phillips holds the office of secretary and treasurer.

The new industry will manufacture communication wire for the Army signal corps.

★ ★ ★

BERNARD L. WHELAN, noted airplane pilot, has been elected general manager of the Sikorsky Aircraft division of United Aircraft Corporation according to a recent announcement made by Eugene E. Wilson, vice chairman and president of the aircraft organization.

Mr. Whelan succeeds J. Reed Miller, who resigned as vice-president and general manager of Sikorsky aircraft.

Mr. Whelan is a veteran pilot, having learned to fly in 1913 at the original Wright Brothers' flying school in Dayton, Ohio. During the first World War, he was a civilian instructor in the United States Army and from 1918 to 1923 he was a test pilot for the Dayton-Wright Airplane company. From 1923 to 1928, he operated the Rinehart-Whelan Co., an aircraft company in Dayton. Mr. Whelan became a test pilot for United Aircraft in 1928 and was made manager of the United Airport in East Hartford, now known as Rentschler Field.

Sikorsky Aircraft developed and built the first successful helicopter in this country and is now tooling a plant in Bridgeport for the quantity production of helicopters for the U. S. Army air forces.

★ ★ ★

REX B. BEISEL, general manager of Chance Vought Aircraft division of United Aircraft Corporation, recently announced that twenty-three employees of the Stratford plant will share in prize money totaling more than $4000 awarded by the company for the best suggestions submitted during the first six months of 1943.

Top winner is Michael DeLuca, whose suggested change in the design of a jig has gained for him a $500 award.

★ ★ ★

JAMES T. KEMP of Waterbury, metallurgist of the American Brass Co., is on leave for the duration and is one of 25 war material experts who will leave for London shortly as part of a new "Harriman Mission" to expedite the operation of lend-lease. He will be assigned to the American embassy in London under the newly created Foreign Economic administration, headed by Leo Crowley, former chief of the Office of Economic Warfare.

An authority on metals, Mr. Kemp left Waterbury in 1941 to join the Office of Production Management, transferring to the WPB when OPM was abolished. A year ago he was chosen by Douglas McKenzie, civilian aide to Gen. Somervell, to act as a civilian consultant in the Army Services of Supply.

★ ★ ★

WILLIAM J. FITZGERALD, State Manpower Director, recently appealed to the manufacturers in the Hartford area, who may now be employing qualified truck repairmen in another capacity, to induce these men to return to their regular trade, to avert a transportation shortage because of a lack of qualified mechanics.

Fewer than one-third of the normal complement of mechanics is now available for truck and passenger bus repair and the equipment will rapidly deteriorate unless former repairmen are induced to return to work as auto mechanics.

Wages now offered to truck mechanics compare favorably to those offered by industry and many men not now using their skill in their present job could better serve the war effort by reporting to their local U. S. Employment Service office for placement as truck mechanics.

★ ★ ★

AN INVESTIGATION of alleged "labor hoarding" in war plants throughout Connecticut is now being conducted by the State War Manpower Commission in response to numerous complaints received at the office of William J. Fitzgerald, state WMC director.

Mr. Fitzgerald declared that wherever complaints of hoarding were numerous or where there were heavy and insistent demands for more workers, "utilization consultants" were being assigned to the plants to determine whether each worker was doing a full day's work.

At the same time William Green, president of the American Federation of Labor, in Boston and New York deplored what he termed "hoarding of labor" in many parts of the United States and called for community action

THE HARTFORD-CONNECTICUT TRUST COMPANY

Announces a Service Vital to Connecticut Industry

TRUSTEED EMPLOYEE PENSION AND PROFIT SHARING PLANS

Connecticut business firms and industrial plants have felt the need for sound pension and profit sharing plans that will

(1) Provide suitable security for employees after retirement
(2) Improve employee and company relationship
(3) Make use of present liberal tax deduction allowed for this purpose

The subject is one which requires considerable study, and plant management today is rushed. Perhaps for that reason consideration of pension plans often has been postponed.

With a view to simplifying the subject we have prepared a brief outline of pension and profit-sharing plans.

This booklet summarizes the results of our experience and study of these plans. It will give an overall picture of the subject and lead the way for further detailed consideration. Please feel free to ask for it without obligation.

A copy of this booklet will be sent on request

THE HARTFORD-CONNECTICUT TRUST COMPANY

760 Main Street—Hartford, Connecticut

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to check such "flagrant abuses."

Six consultants are already engaged in Connecticut and four more will be appointed soon. These men have had general engineering training and are fitted to go into war plants and work with management to make labor saving improvements. When the consultants find that the workers are not using their time to full advantage, reports are made to the regional WMC office, which may order that no more workers be referred to the plants by the United States Employment Service.

"The war manpower shortage is too critical to have two men on one job these days," the director stated. "The labor pool is exhausted, so we'll have to make the most of every worker we have."

★ ★ ★

MEETING DATES for the various engineering and technical societies in the Hartford County area from December 1, 1943 until vacation period of 1944 are as follows:

December 1, 1943—S. A. E.
December 6, 1943—A. S. T. E.
December 8, 1943—Industrial Foremen's Club
December 14, 1943—A. S. M. — Christmas Party
December 20, 1943—American Electroplaters
January 5, 1944—A. S. T. E.
January 11, 1944—A. S. M.
January 12, 1944—Industrial Foremen's Club
January 17, 1944—American Electroplaters (tentative)
February 2, 1944—S. A. E.
February 7, 1944—A. S. T. E.
February 8, 1944—A. S. M.
February 10, 1944—Industrial Foremen's Club
February 21, 1944—American Electroplaters
March 1, 1944—S. A. E.
March 6, 1944—A. S. T. E.
March 14, 1944—A. S. M.
March 15, 1944—Industrial Foremen's Club
March 20, 1944—American Electroplaters
April 3, 1944—A. S. T. E.
April 5, 1944—S. A. E.
April 11, 1944—A. S. M.
April 17, 1944—American Electroplaters (tentative)
May 1, 1944—A. S. T. E.
May 9, 1944—A. S. M.
May 15, 1944—American Electroplaters
June 5, 1944—A. S. T. E.

SUPPLEMENTARY FEEDING PROBLEMS

(Continued from page 9)

amount to 300 to 400 calories and thus constitute 15 per cent of the total intake of food. It was further evident that the diets of many of the employees were actually deficient in vitamins and minerals, or verged on such deficiency. Supplementary feedings with foods containing only carbohydrate further exaggerated these deficiencies. This feature of supplementary feedings constitutes the only valid criticism against eating between meals which otherwise serves to alleviate such tiredness and decreased productiveness in factory workers." The Council on Foods and Nutrition of the American Medical Association[5] in a report written in November, 1942 concludes "From the health point of view it is desirable especially to have restriction of such use of sugar as is represented by consumption of sweetened carbonated beverages and forms of candy which are of low nutritional value. The Council believes it would be in the interest of the public health for all practical means to be taken to limit consumption of sugar in any form in which it fails to be combined with significant proportions of other foods of high nutritive value."

It is time that industry looks to see what foods are being served to workers between meals. Far too often these will be only candy, coffee and carbonated beverages. Shall we sell out to vendors and concessionnaires whose vending machines and rolling trucks provide such foods only? Why not eliminate these foods and use milk and fruit juices instead! The Nutrition in Industry Committee recommends that milk and fruit juices, high in minerals and vitamins, be sold in place of foods which are low in nutritional value.

(5) Council on Foods and Nutrition, American Medical Association "Some Nutritional Aspects of Sugar, Candy and Sweetened Carbonated Beverages," Journal of the American Medical Association, 120, 763-65, 1942.

GIVE US
YOUR TOUGH PROBLEMS
WE KNOW
METHODS—PRODUCTION CONTROL—WORK SIMPLIFICATION
LABOR CONVERSION—INCENTIVES—COSTS
We Can Get YOU Increased Production Through the Design of Simpler and Better Methods in ALL Phases of Your Operations
If you need help, we have adequate personnel. References on request.
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STATLER BUILDING BOSTON, MASSACHUSETTS
"Our 11th year of leadership"

EXPORT NEWS

By W. ADAM JOHNSON, *Director*, Foreign Trade Dept., and *Manager* Hartford Cooperative Office, Bureau of Foreign and Domestic Commerce.

WARD DISCUSSES STABILIZATION:—Mr. Wilbert Ward, Vice President, Natoinal City Bank of New York City and president, Bankers Association for Foreign Trade spoke on the subject "Post-War Overseas Prospects" at the Industrial Planning Conference and Annual Meeting of the Association in Bridgeport on November 9th. This speech will be reported in the December issue. Mr. Ward is also one of the best informed bankers on the currency stabilization plans proposed by America, England and Canada.

Speaking at a round-table discussion of the Foreign Credit Interchange Bureau Mr. Ward said that the Keynes plan already has served its usefulness in introducing the general subject of currency stabilization and provoking discussion, but that it is too ambitious and complicated to be practical. In regard to the White plan, he pointed out that the Treasury Department is not committed to that plan as yet, and that for the time being, it should be regarded as preliminary.

When it is agreed that stabilization will not be achieved by itself and that a plan of some kind is necessary, Mr. Ward brought out, there remains the vital question of procedure. The Treasury approach to the subject, he continued is to get all the countries together and have them agree on one plan, whereas a number of monetary authorities favor the "Key Nation" method of approach. That is, he explained, first get the dollar stabilized and then bring the dollar in line with the pound sterling, and when you do that, the various nations whose currencies are dependent on the dollar, and the pound, automatically will come into the fold.

He said that exporters who do not agree with the Treasury's method of approach, will have an opportunity to express their views at the forthcoming convention when this subject will be discussed in detail.

★ ★ ★

THE RETURN TO NORMALCY:—As background material to any forecast of post-war conditions and because history so often repeats itself the American Exporter has published an article "The Return to Normalcy" to serve as an aid to post-war planning. What will become of the many export and import controls? A possible answer may be found in what happened to the controls after the World War I. Excerpts from "The Return to Normalcy:"

How soon after the fighting ends will export and import trade be released from the controls now in force?

As of possible significance in this connection it is worth recalling the following facts:

Sixteen days after the armistice of November 11, 1918, the War Trade Board—corresponding then to the present Office of Economic Warfare—began removing the necessity for export licenses.

Within ten days after the armistice, the War Trade Board began to modify its ruling on imports, control of which had been maintained to conserve shipping space.

Within three weeks after the armistice, the army began to release shipping to the Shipping Board with the result that by December 9 the War Trade Board began to remove entirely all controls and the importation of goods included in the list of restricted imports.

Less than five months after the armistice 95% of the names on the "Trading With the Enemy List", for Latin America, corresponding to the present "Proclaimed List" were removed at one fell swoop.

Less than a month later the entire list was abolished.

Within 60 days after the armistice, resumption of trade with some former enemy or ally of enemy territory was authorized.

Relaxation of Export Control

Almost before the armistice was signed the War Trade Board was considering the policy that should be adopted after the termination of hostilities and was conferring with other war agencies in Washington for the purpose of formulating a coordinated plan of action.

The first public statement of a specific change of policy came with the announcement on November 22, 1918, that the rules of conservation were being revised and that, in conformity with this revision, the Board would shortly publish a very much abbreviated export conservation list. The announcement stated that these commodities were being removed from the list and that further control would be based upon:

(1) The world shortage in certain commodities.

(2) The necessity of rehabilitating Europe and Siberia.
Many foods, particularly fats and sugars, were greatly needed in these areas; and raw materials must be imported before industry could revive on any general scale. It might be necessary to ration raw materials to them.

(3) The scarcity of tonnage.
It might be necessary to place or maintain restrictions upon bulky commodities until the tonnage situation was relieved; and tonnage would be needed for the return of the troops, for the carriage of supplies to those still overseas, and for the carriage of supplies for relief and reconstruction in Europe.

Consistently with this policy, the first removals were among the immediate materials of warfare or among commodities the export of which, and therefore the production of which, had been largely curtailed as nonessential for war purposes. Such were chemicals, machinery, and certain metals. Foodstuffs were among the last of the important great groups of commodities to be removed.

Exports to the Major Allies

Within a few weeks after the signing of the armistice it became possible to facilitate exports to the most im-

portant allied belligerents under a special license system.

Exports to Neutrals

As a result of the modification of the enemy trading list for Latin America on April 4, a new special license, RAC 77, was issued, effective April 7, to permit shipments by freight or express, without individual license, of all commodities except those in a specified list to Mexico, Cuba, Haiti, San Domingo, and all countries in Central and South America other than colonies or possessions of Great Britain and France, shipments to these last having been already provided for in RAC 63.

Exports by Mail

During the period of the armistice certain of the special licenses that had been issued to the Post Office Department were likewise from time to time amended to keep pace with the general policy of relaxation, until before the middle of June had been reached, instead of being subjected to the requirement in each case of having to procure and present to the local postmaster an individual export license, exporters were permitted, under RAC 52 to ship by mail all commodities that were not on the conservation list.

Black List Abolished

On April 4, 1919, all but 5% of the names on the "Trading With the Enemy List" for Latin America were removed, the list of some 3200 names being reduced to about 170.

Twenty-five days later, on April 29, 1919, the entire list was abolished.

Shipping Supply

One of the most striking events of post-armistice 1918 was the speed with which the Army began releasing ships to the Shipping Board.

Two hundred thousand deadweight tons had thus been released by the 31st of December; while by January 31, the figure was 600,000 deadweight tons and in the next two months another 800,000 tons was released.

Import Restrictions Removed

In April, 1918, the War Trade Board initiated the program of limiting imports in order to conserve tonnage for the military needs of the United States. With the signing of the armistice the imposition of further import restrictions for this purpose ceased, and the Board adopted the policy of removing these restrictions as rapidly as the tonnage situation permitted.

The War Trade Board began to modify its rulings on imports, control of which had been maintained to conserve shipping space, as early as November 21. Crude rubber, cocoa, hides and skins were among the first items affected.

By December 9 the Board began to remove entirely all controls on the importation of commodities included in the list of restricted imports.

FIRST PERIOD — RESTRICTIONS REMOVED BECAUSE OF THE FAVORABLE TONNAGE SITUATION.

SECOND PERIOD—REMOVAL OF RESTRICTIONS DELAYED UNTIL CERTAIN QUESTIONS WERE SETTLED

The import restrictions that were still maintained on January 13 covered commodities affected by considerations other than those affecting tonnage.

THIRD PERIOD—RESTRICTIONS NOT REMOVED UNTIL MORE THAN THREE MONTHS AFTER THE SIGNING OF THE ARMISTICE.

Transfer of Board Organization to the Department of State

By June 30, 1919, the end of the fiscal year, the war-time control of trade exercised by the War Trade Board had been relaxed to such an extent that it was no longer necessary to maintain the organization of the Board as a separate agency of the Government.

To continue these limited activities of the Board and to complete certain miscellaneous work connected with the liquidation of its affairs, and in accordance with Executive orders signed by the President on March 3, 1919, and May 12, 1919, respectively, the War Trade Board, on June 30, 1919 was merged into the Department of State.

The Proof of the Pudding

Exports from the United States in the single month of January, 1919, were 100 million dollars greater than in the month of November, 1918.

By January, 1920, they were up another 100 million dollars for the month. Eliminating the wild price inflation which followed the armistice of 1918, here is how the VOLUME of United States exports compared:

VOLUME OF U. S. EXPORTS (1913—100)

1913	100
1919	142
1920	137
1921	120
1922	112
1923	115
1924	130
1925	137
1926	146

TODAY'S PROBLEM OF WAGE INCENTIVES

(Continued from page 7)

done in a specified period of time. In practice it must be expressed in terms of expected units of output per hour or per day, or in terms of machines to be operated at some standard rate of efficiency.

2. Work assignments should be based upon and measured by the actual amount of work required in their performance. No assignment should be such that a normal employee cannot handle it day after day and year after year without impairment of his health and energy.

3. Work assignments should be so regulated as eventually to remove this subject from the field of competition; mills should not be driven to seek removal of competitive disadvantage through any course which jeopardizes the well-being of their employees.

4. No barrier should be raised against the introduction of new machinery; nor against the improvement of processes. Such progressive steps, however, should be accompanied by measures which will minimize the hardships imposed upon the workers displaced.

Job Evaluation and Wage Classification

Since that time, the Conciliation Service of the U. S. Department of Labor has done considerable work in assisting management and labor to solve work assignment and incentive difficulties through surveys.

Since Pearl Harbor, as different War Agencies have come into being, several have given close attention to wage incentive plans. The War Production Board has dealt with the subject be-

cause of its relation to increased production; the War Manpower Commission because of the need for manpower; and the War Labor Board because of its responsibility for resolving disputes and for stabilizing wages. As management and labor consultants of the office of Production Management and the War Production Board worked on the problem of settling labor disputes, actual or potential, which threatened to interrupt war production, it became increasingly clear that questions relating to the amount of work which labor should accomplish and how much the laborer should receive in a day were at the bottom of most grievances. This condition prevails whether the payment is on the basis of day work or incentive.

Hence during recent years much emphasis has been placed upon job evaluation and wage classification; the result has been a more logical payment of workers, graded by skill, responsibility, working conditions, and other characteristics. Government agencies, particularly the War Labor Board, are engaged in such grading and in stabilizing wages within plants and within areas by the use of arbitration and mediation.

Going a step beyond this, however, many companies on a day work basis have set up methods of assigning different hourly rates to employees within the same job class, depending on their record of production, quality, seniority, etc. Regardless of all attempts to regulate the wage structure, there seem to be chronic difficulties concerning questions of production if the latter is not definitely tied to wages. After workers are assured of regular known earnings, it becomes management's function to secure the maximum production which can reasonably be expected. Such endeavors often result in allegations of aggressive speeding up, either by conveyor methods, or by individual goading. Yet, on the other hand—and particularly where management has not set up carefully determined standards of production—there come into being rates of production, often set up spontaneously by groups of employees, which peg production at a point beyond which, in one way or another, the group makes it clear to individuals that it would be best not to go. A hangover from the depression era, such a practice nevertheless stems from the old belief that restricting production will result in job security.

Pitfalls Must Be Avoided

That the mere installation of a wage incentive plan is a sure cure for production restrictions should not, of course, be assumed. There are many dangers and pitfalls. The many months' experience of the Labor Consultants and Management Consultants in the War Production Board have shown us, indeed, that with good leadership from management and close cooperation between management and labor, a day-work method of payment will result in greater productivity than crudely and arbitrarily applied incentives.

Never, furthermore, was the installation of incentives so difficult. Never was there such a relative scarcity of competent individuals to establish and maintain them. These are days of kaleidoscopic changes in specifications and of technological changes. Industrial engineers are at a premium and the burden of newly trained supervisors great. The determination of the proper number of machines for a worker to operate and of the amount of production he should accomplish per man-hour, is not something which can be safely guessed. Careful detailed study and a maximum of cooperation are necessary. Too often in the past, when the results of erroneously established standards have shown up in the possibility of earnings higher than anyone expected, managements have simply cut the rates, sometimes again and again. As a result, labor has become more and more suspicious, and, in many cases, firmly set against all incentives.

Today, to be sure, we find almost no managements who are not willing to guarantee tasks or rates of production per man-hour against change unless there is a change in materials, method, or equipment. However, when for one reason or another some rates in a shop are set so that workers can earn two, three, or four dollars an hour where it was agreed that one dollar an hour was the proper pay for a reasonable day's work, there is clearly trouble ahead. Harmony is not likely to exist in a shop where some are earning one dollar an hour and others on equivalent jobs twice as much. The natural and usual result is that production is pegged at some point which is felt reasonable, somewhat over the one dollar. Though

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such pegging is often participated in by some supervisory person who has been in error, just as often management never learns how much could readily be turned out.

Since this condition is unfortunately widely prevalent, there is no danger of exaggerting its importance. It is wrong and should be cured. Yet management can cure such a condition only by the use of great care and experience in the first place. Once a rate is set, management must accept it with its corresponding cost. If management alters the rate, then immediately it loses the workers' confidence and cooperation. In peace times such a situation is bad enough. In wartime, when every ounce of production and manpower is essential, its correction is a must.

Correction is, moreover, possible. There are records of situations where union leadership has been broad enough so that these circumstances have been talked out with management and mutual adjustment made. Often workers dislike to see the savings due to the corrections of such errors go into increased profit. One possible means of meeting this objection is to set up a temporary fund for a specified purpose into which the savings may go. Inasmuch as in most cases negotiations of this sort are not easy for labor and management to work out alone, the War Production Board Management and Labor Consultants can often be most helpful.

The Labor-Management Committee

One answer to the question is the labor-management committee. Realizing the great need of bringing labor and management into a greater degree of cooperative effort, Donald Nelson initiated the War Production Drive in the spring of 1942. Here, on an entirely voluntary and local basis, managements and labor groups were urged to select their respective members for joint labor-management committees whose function it was to get into as close agreement with each other as possible in the consolidation of all means of increasing production. No prerogatives of management were to be usurped. No rights of collective bargaining were to be interfered with. There are now over 2300 such committees, considering such things as absenteeism, transportation, deferment, saving of scrap, and safety. Sub-committees have been formed to consider suggestions for proposed changes in methods of manufacture and for increasing production in general.

The consideration of wages and work assignment or incentives comes ordinarily, of course, under the category of collective bargaining; still, the formation of labor-management committees to consider plant efficiency inevitably results in bringing up these very subjects, which are then referred back to the collective bargaining agencies. Thus labor-management committees have in themselves provided a sort of general incentive which has led to a consideration of the deeper and more difficult features involved in the relationship between money and effort.

It has often happened, indeed, that as labor and management consultants of the War Production Board have worked in the field in the attempt to increase production by bettering the understanding and relationship between management and labor, many instances have been found where both parties were desirous of going ahead with a wage incentive plan. Especially has this been true since the issuance of the various executive orders and regulations on wage stabilization. The consultants bring no definite or specific plans or rules—merely advice. The prime object is to obtain real agreement in prniciple. War Production Board's aim has been to assist managements and unions by presenting to them expierences obtained in other situations.

WLB and Incentive Plans

Since incentive plans affect wages, War Labor Board approval is necessary. Through July 1943 War Production Board management consultants have helped regional War Labor Board offices on over three hundred incentive cases, evaluating them as to the effect on production, costs, and wages. This collaboration has proved satisfactory; the War Production Board looks at incentives primarily from an engineering and production point of view, and the War Labor Board primarily from the point of view of wage stabilization and inflation. Like the War Production Board, the War Labor Board does not demand any fixed rules as to the relationship between wages and production. Its two chief criteria are these:

1. The plan must have the agreement of management and its collective bargaining agency, where there is one.

2. In accordance with the President's "hold-the-line" order, there must be no appreciable increase in unit labor cost.

Once a good incentive plan has been worked out, surprising results may ap-

pear. The possible effect of a good incentive plan can be illustrated by 900 workers of an aircraft control bearings plant, which showed a 28% increase in production for one week in June on incentive work, compared to a week in May when not on an incentive plan. The incentive in that particular case made use of a series of individual rates set up after time studies of the various operations.

In another plant which makes grinding wheels, an over-all incentive bonus increased production 39% during the first month of operation. In another WLB region in the Middle West an incentive in a large machine tool plant increased production 64%. An incentive for a plant of 150 workers making wood cargo bodies for ordnance shipments increased production 74% during a three months' period. In still another region, in an electrical company, production was increased from 6500 to 8500 units or 30.8% in two weeks when an incentive plan was put into effect.

An interesting case of labor and management cooperation in the working out a revision and extension of an existing wage incentive plan occurred at two western New York steel mills owned by a large corporation. Local plant and union officials with the help of WPB Management and Labor Consultants worked out solutions which have increased production 9% at one plant and 39% at another on the basis of pounds per man-hour for the month of June over May 1943.

All this is the result of incentive plans accurately conceived and skillfully carried out. In many instances, on the contrary, there have been obvious attempts simply to raise wages through the instrumentality of a so-called wage incentive plan. There have been other instances of seemingly frantic attempts to get increased production with little basic knowledge of the subject of incentives. In many such instances the WPB consultants have been able to meet with the parties and gain agreement to a plan which would be satisfactory.

There has been no agreement between the various government agencies as to an arbitrary plan to be adopted or not to be adopted by industry. There has been no official set of rules laid down which must be carried out.

Conclusions

The writer, however, after a number of years' experience in dealing with these matters (and speaking as a private citizen) believes the following principles are essential to a sound incentive plan:

1. A wage incentive plan releases forces acting on two of the most potent factors in labor relations, wages and effort expended. In establishing such a plan, therefore, all available scientific and engineering ability should be used, combined with a sympathetic attitude toward the human relations involved.

2. A wage incentive plan may be a dynamic and constructive force for increased production, or it may be a means of disrupting labor relations and actually lowering production. Management should realize, then, that incentive plans must have the continued attention of top executives.

3. If a company's employees are represented by a recognized union, their representatives should be fully and continually informed regarding the methods and procedures used and the objectives to be accomplished. Management and the bargaining agency should be in real agreement as to the adoption or modification of the plan.

4. The plan should be sufficiently simple to be thoroughly understood by those to whom it is applied. Though over-simplification may involve injustices, attempts to meet every exigency tend to over-complicate. Workers should understand the effect of their own efforts on their earnings.

5. The plan should provide for the changing of production standards whenever changes in methods, material, equipment, or other controlling conditions are made in the operations represented by the standards. In order to avoid misunderstandings, the nature of such changes should be made clear to the union, which should have the opportunity to appeal through the grievance machinery.

6. The practice of setting a temporary standard in new plants or on new operations (because of the desire of both management and labor to have incentive work before the permanent standard can be set) should be kept to a minimum. It should in any event be clear to all that the standards are temporary, for a reasonably short period only.

7. Except for such changes as described in (5) and for temporary rates (6), production standards once established should not be altered except by mutual agreement between the company and the representatives of its employees. When these representatives have sufficient confidence in the management to offer the correction of errors made by management in setting rates, and when they can convince the employees of the wisdom of this step in the interest of unrestricted production, then advanced labor relations will have been achieved. Conversely, management should be willing to correct rates which are too severe.

8. Under ordinary circumstances, management should guarantee that the employees' basic hourly rates which existed prior to the plan should become guaranteed rates of pay under the plan.

9. The plan should definitely increase production as well as wages.

10. There should be no appreciable increase in the unit labor cost of operations performed by the workers to whom a plan is applied.

11. Production standards, where practicable, should be developed from detailed time studies. Clear and definite standards eliminate difficulty and misunderstanding.

12. In general, the production standard should be established by management as the amount of work performed per unit of time by a normal, qualified operator under normal conditions.

13. When production standards are properly set as outlined in (11) and (12), good practice has demonstrated the desirability of adopting an incentive payment in which earn-

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ings above the established standard are in direct proportion to the increased production; that is a 10% increase in production over standard should call for 10% increased pay over the base rate. This statement should not, however, be universally applied. Often in order to increase immediately critical production, managements and unions have agreed to use crudely estimated standards before production has been reasonably stabilized. If, in all such cases, payment above low standards were paid in direct proportion to increase in production and not really accompanied by increases in effort, instances of doubled and trebled earnings would arise to plague both labor and management. Actual inflated increases would disturb intraplant and intra-community wage levels. Potential increases might be even more serious on account of the tendency toward restricted production which would prevail. In order to guard against such a condition and still provide an incentive, managements and unions have often by agreement adopted a plan in which the reward of increased production is shared jointly.

14. In ordinary times and without the war motive it is generally conceded that incentives applied to individuals and small groups are more responsive than those applied to large groups. When a plant is divided into a number of large groups on incentives, it often happens that there is such unevenness between group payments that feelings of injustice creep in, and plant tranfers are difficult to effect. This, of course, is not true of plant-wide incentives.

15. It is often felt desirable to include indirect workers in the incentive plan even when the measurement of their production is impracticable. If this is done and they are paid a bonus commensurate with the production of measured employees, the indirect man-hours should in some way be correlated to some measurable unit such as total production or direct employee hours, so that indirect labor overhead costs may be kept under control.

16. Today we need immediate increase in war production. There are plants where it is impracticable from the point of view of time to wait for scientifically established individual standards. In many such cases, incentives for the whole plant may be devised which will prove effective during the war. Though in peace-time the dilution of the individual's effort might be too great, today it is essential to put every effort back of plant teamwork. There are clear indications that with enthusiastic support of management and labor, standards for an entire plant may be set, based on total production per man-hour, and incentives paid to all employees are a proper reward for the extra effort and accomplishment.

The installation of an incentive plan entails acceptance by management of the responsibility for keeping the plan up to date. And this involves hard work. An incentive plan either poor in itself or poorly administered will cause many new unfavorable conditions; a sound plan, on the other hand, through increased productivity of our industrial system and through increased utilization of labor will benefit labor, management, and the nation. No management now engaged in war production to which an incentive program could properly be applied, should be discouraged by technical or apparent practical difficulties from considering such a program. The benefits of a sound incentive plan more than repay the difficulties of its installation.

QUERIES

By JOSEPH B. BURNS

Counsel

QUESTION 1: Has any action been taken to extend the time for the filing of applications under Section 722 of the Excess Profits Tax law?

ANSWER: Yes, the Ways and Means Committee are presently considering H. R. 3308 which will extend the time for filing applications and which will be retroactive when adopted. Passage of this bill seems unquestionably assured.

QUESTION 2: Is it necessary for a manufacturing concern dealing in goods presently under price control to register under the provisions of OPA Licensing Order No. 1 which became effective October 1?

ANSWER: No, all concerns are automatically licensed under the terms of this particular order and no special steps need be taken to comply with its provisions. Registration under this new control would be necessary only for dealers in second-hand machinery.

QUESTION 3: Are we correct in our understanding that the U. S. Department of Labor has established certain standards to be used by manufacturers operating under the Walsh-Healey Act in controlling the employment of 16 and 17 year old school girls on a part-time basis?

ANSWER: It is true that the War Manpower Commission, the Federal Security Agency and the Children's Bureau of the United States Department of Labor have released certain suggestive standards for the employment of minor females on Walsh-Healey contracts when these girls are attending school. The document in which these standards are described is entitled "Statement of Policies and Standards Governing the Non-Agricultural Employment of In-School Urban Youth Under Eighteen Years of Age". This material emphasizes certain specific recommendations which serve as guideposts for part-time employment of 16 and 17 year old school youths. THE STANDARDS ARE SUG-

(Continued on page 59)

TRANSPORTATION

By N. W. FORD

Manager and Traffic Manager

INTERTERRITORIAL FREIGHT RATES:—The Board of Investigation and Research has submitted to the President and Congress its complete report on interterritorial freight rates. A preliminary report was submitted on March 30 of this year.

The Board failed completely to carry out the program for which its existence was originally authorized by Congress; namely, to investigate (1) the relative economy and fitness of carriers by railroad, motor and water for transportation service with a view to determining the service for which each type of carrier is best fitted; (2) the extent to which the several classes of carriers have been subsidized by the government; and (3) the extent to which taxes are imposed upon such carriers by governmental agencies.

In order to obtain finances to continue its existence, the Board yielded to the demands of a congressional committee that it investigate the interterritorial freight rate situation. Congress never authorized such a study. Under the circumstances, it is not surprising that the Board's recommendations reflect the opinions of the people from the section of the country in which the members reside.

The majority (Messrs. Webb and Childe) recommend that Part I of the Interstate Commerce Act be amended by declaring that it is in the interest of a proper development of the country as a whole that there should be established a uniform classification of freight and a uniform scale of class rates for application in interstate commerce throughout the United States, except where departures from uniformity may be clearly shown to be required. Other recommendations would direct the Commission to administer and enforce the act with a view to carrying out the above provisions and to prepare a proposed uniform classification of freight and a proposed uniform scale of class rates and to require the establishment of a uniform classification and scale of class rates not later than two years after hearings were completed relative to this subject.

Chairman Smith, formerly a member of the New Hampshire Public Service Commission, filed a dissenting opinion, in which it was stated that he was unable to subscribe fully to the conclusions of the majority nor could he join in the recommendations for legislative action.

The report is meaningless except for such support as it may lend to the proponents of a uniform rate structure.

★ ★ ★

REPORTS OF MERCHANDISE CAR SERVICE:—The New Haven Railroad and the lines having connections at New York or at Hudson River Gateways provide the Association's Traffic Committee with regular monthly reports of the handling of merchandise cars originating at stations in Connecticut to the primary transfers.

At present the average on-time performance record both by the New Haven and connecting lines discloses an operating efficiency of approximately 85 per cent. In other words, only about 15 per cent of the less-than-carload traffic from Connecticut points is delivered late to connections.

The on-time performance during normal times often exceeds 95 per cent but the present average efficiency is considered quite satisfactory in view of the unusually heavy movement of traffic due to war conditions. Efforts are constantly made by the railroads to improve the service.

★ ★ ★

INCREASED TRUCK RATES IN NEW ENGLAND — I. & S. DOCKET M-2247:—In a proposed report made public about the middle of September, Interstate Commerce Commission Examiners Coyle, Aplin and Stillwell recommended a general increase of four per cent in the rates and charges of motor common carriers operating within the New England area, which includes New York City and adjacent territory. In applying the authorized increase to minimum charges per shipment, the Examiners proposed that charges be increased to the next highest multiple of five cents.

At the conclusion of the hearings, all parties to the proceeding agreed to forego the filing of briefs. However, all parties to the case were permitted to file exceptions to the Examiners' proposed report on or before October 12, 1943.

While members of the Eastern Motor Freight Conference were not respondents in this proceeding, it is understood that arrangements have been made whereby the Conference will file the necessary master tariffs to the end that its members may enjoy any increases of rates that are ultimately authorized by the Interstate Commerce Commission.

★ ★ ★

EX PARTE MC-22:—The reopening of hearings in Ex Parte MC-22 has been announced by the Interstate Commerce Commission. No date has yet been set for the new hearings, although it is expected that the case will be assigned for some time in the late fall. This will provide an opportunity to bring the evidence up-to-date with respect to operating costs and other factors that have changed since the previous hearing. The last series of hearings were conducted under the Commission's order of July 18, 1939, followed by a final filing of briefs in February, 1941, and exceptions to a proposed report of the Examiner of January 30, 1942.

Interstate Commerce Commission representatives are at present within New England studying operating costs to be used as a part of the Commission's own presentation in the proceeding.

★ ★ ★

3% TRANSPORTATION TAX MAY BE REPEALED:—Repeal of the 3% tax on freight transportation and an increase in the tax on passenger transportation from 10% to 25% was recommended by Secretary of the Treasury Morgenthau when he appeared before the House Ways and

Means Committee in connection with the proposed new revenue bill. It is estimated that the increase in the proposed passenger transportation tax would approximate $212,700,000 annually.

★ ★ ★

STATUS OF EX PARTE 148:—The railroads and other parties to Ex Parte 148, Increased Railway Rates, Fares and Charges, were called upon by the Commission to show cause on or before October 30, 1943 why the Commission should not further suspend for a six month's period beyond January 1, 1944, increases in rates, fares and charges which became effective March 18, 1942, but were suspended from May 15, 1943 to January 1, 1944, following hearings last spring.

There has been considerable interest evidenced as to whether the Commission would or would not permit the suspended rates to become effective the first of the year.

★ ★ ★

MAXIMUM RULE — DEMING, N.M.:—In a proposed report in I. and S. No. 5110, Maximum Rate Provision, Ocean-Rail to southwest, Examiner M. J. Walsh has recommended finding unduly prejudicial in violation of section 3(1) and (4) of the Interstate Commerce Act proposed cancellation of tariff provision that ocean-rail and rail-ocean-rail rates from points on Atlantic seaboard territory to interior destinations in Arkansas, Louisiana, Oklahoma, and Texas shall not exceed those concurrently in effect from the same origin points to Deming, N.M. He also recommended that the suspended schedules be ordered cancelled and the proceeding discontinued. The Association was a party to a brief in this proceeding which contained recommendations almost identical to the findings proposed by Examiner Walsh.

ACCOUNTING HINTS

Contributed by the Hartford Chapter National Association of Cost Accountants to stimulate the use of better accounting techniques in industry.

EVEN IN NORMAL TIMES the insurance program is often a routine matter of renewing policies as they expire, with but little attention to the question of proper coverage. For the past several months nearly everyone has been involved in important matters requiring prompt attention and with the belief that the question of proper insurance coverage might have been pushed aside by more pressing matters, the following are offered which may help in reviewing present coverage to determine whether or not it is adequate and proper:

Fire Insurance

Have you considered the increased value of buildings and equipment in the light of present replacement costs?

Has your value of raw, partly wrought and finished goods increased either by increased quantity or cost prices?

Finished goods are often insurable at sales value rather than cost.

Steam Boiler Insurance

Replacement costs have also increased present values.

Did you notify your insurance company in case you converted from oil to coal?

Use & Occupancy

Due to difficulties in obtaining materials and labor the period of shut down may be longer than anticipated.

New employees, multiple shifts, etc., may have also increased the possibility of losses under this coverage.

Workmen's Compensation

Have you made any shifts of location of men in the field resulting in some coming under the protection of State Laws, not included in your coverage? You may be reporting wages paid to an employee as working in one state when due to the amount of time spent in another state he might be able to bring a claim under the laws of that state for which you had not reported and were not covered.

Public Liability

Have any new hazards been created by War Production activity? Is your coverage high enough to cover the amounts that might be awarded under present inflationary values?

Safe Burglary and Paymaster Robbery

No doubt you have increased your coverage to compensate for the higher amounts involved.

Automobile Public Liability & Property Damage

Some very substantial awards have been made recently and values of property have increased. Damage amounting to $100.00 two years ago might cost from 50 to 100% more today.

Fire & Theft and Collision

The market value of 1941 cars today is often in excess of the purchase price. Repair costs are substantially higher.

The foregoing is of course only a partial list of important points but we hope it may be of some value. Finally—remember that when the present high volume drops the hazards under such coverages as Workmen's Compensation, Public Liability, Paymaster Robbery & Safe Burglary will probably increase.

★ ★ ★

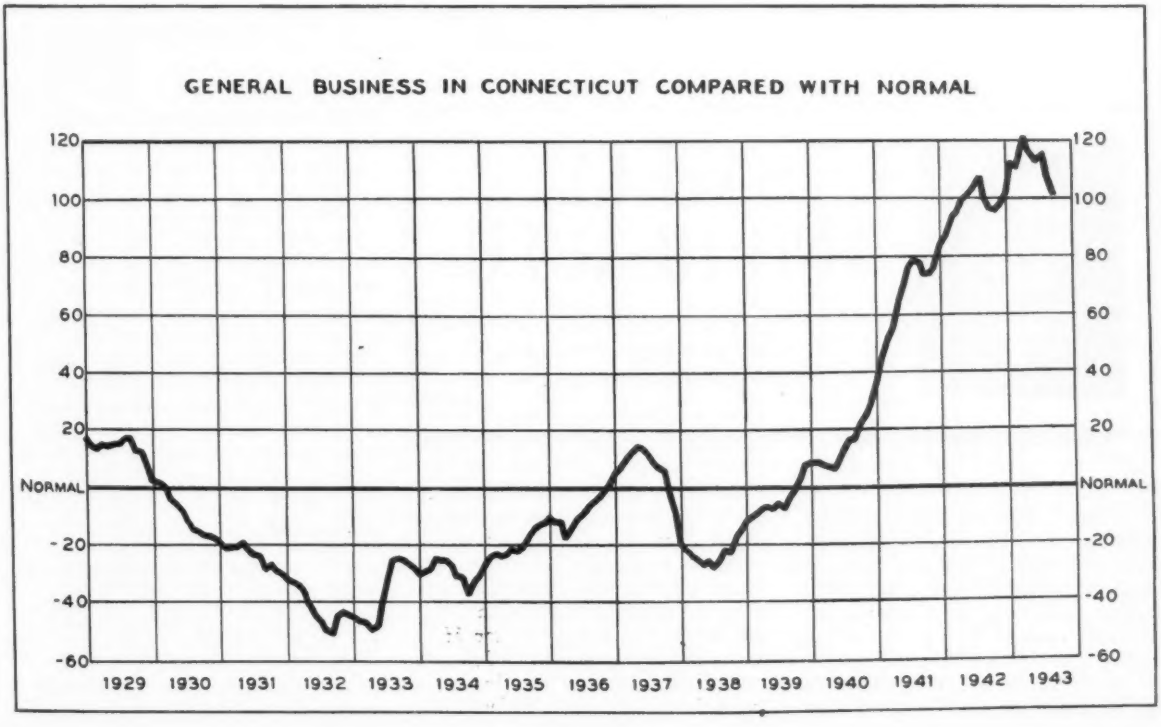
An important meeting will be held Tuesday evening, November 16, 1943, of the Hartford Chapter, N.A.C.A., at Elm Tree Inn, Farmington. Mr. Morris Klein, of Veeder Root, Inc., Hartford, will discuss "Payroll Accounting."

BUSINESS PATTERN

A comprehensive summary of the ups and downs of industrial activity in Connecticut for the thirty day period ending on the 15th day of the previous month.

THE index of general business activity in Connecticut continued its decline in September falling off to an estimated 101.1% above normal while the United States index was registering its third consecutive rise, after the June set back, to stand at an estimated 42.0% above normal in September. Once again the Connecticut index appears to be following the pattern which was set in 1941 and 1942. In each of these years due to technical adjustments, principally seasonal in nature, the index declined in the summer and fall only to regain these losses in December. While the figure of 120.4% above normal, which for a variety of reasons represents an all time high, will probably not be equalled there is nothing to indicate that the Connecticut index will not rise above its present level by the year end.

In September the index of manufacturing employment fell to an estimated 90.9% above normal. The employment situation in Connecticut at the present time is unstable. It is clear that there have been sizeable losses recently, all of which cannot be charged to Selective Service. Department of Labor estimates which are complete through July set the employment loss in the state between March and July at 9,000. More recent private estimates set the decline for Bridgeport alone between March and September at 7,000, of which a large percentage is attributed to production cutbacks at one plant. It is estimated that lay-offs totalling 1,200 have occurred in Torrington. One of the largest war contract cancellations to date in Connecticut, involving $3,000,000, is likely to put a New Haven firm out of business, thereby releasing its employees. On the other side of the picture is the Navy announcement of the letting of a contract for approximately $2,000,000 in Bridgeport. Despite the employment loss mentioned for Torrington, that city has been transferred by the War Manpower Commission from Group 4 (areas of substantial labor surplus) to Group 2 (areas of labor stringency and those anticipating a labor shortage within six months). The location of a new plant in Danbury has changed that city's classification from Group 4 to Group 3 (areas in which a slight labor surplus will remain after six months). In addition officials of the War Production Board have indicated that war orders for Fairfield county will be higher in 1944 than in 1943. In general, it seems that the war successes currently reported from Europe and the Pacific have come a little ahead of schedule thereby requiring shifts on the production front. This new period of backing and filling will probably be with us for the remainder of the year until the situation again becomes sta-



bilized. While the rate of operations in this coming period may not be at recent levels, results should nevertheless be very satisfactory.

In line with the decline in the employment index, manhours worked in Connecticut factories fell in September, the index dropping off to an estimated 150.5% above normal. In the main losses were slight, the average hours worked per employee showing but little change from recent months. The Stabilization Plans which have been put into operation throughout the State appear to be attaining the ends hoped for when they were established, principally a reduction in job shopping. An analysis of separations in Hartford County for the month of September reveals that the percentage of those leaving for other positions to the total of all voluntary quits was well under the figure for the previous month. On the other hand, the percentage of those leaving because of home obligations has risen in the past two months. This may be an indication that recent attempts to recruit and hold women workers have not met with the success of earlier efforts. Most recent earnings and hours figures show that in June male weekly earnings in Connecticut plants were $57.65 for a 49.7 hour week compared with a United States average of $51.29 for a 46.4 hour week. Connecticut female employees received average weekly earnings of $36.89 for a 43.8 hour week as against the national average of $28.74 for 40.9 hours. Male average hourly earnings in Connecticut adjusted to a 40 hour bases were $1.056 compared with $1.033 for the United State average. A greater spread appeared for average adjusted female hourly earnings in Connecticut compared with the country as a whole, the figure being $.807 per hour against $.689 for the United States average.

The index of freight shipments originating in eight Connecticut cities declined to 48.5% above normal in September. In view of the fact that the month of September bears the heaviest seasonal weight of the year, this showing may actually be considered better than that for the past several months when a smaller volume of tonnage was moved. As the railroads enter the busiest part of the year for them, it may be of interest to note some figures for the year 1942 just released by the Association of American Railroads. Briefly the story tells of doing a bigger job with less equipment and manpower. Comparison with 1929, the last pre-depression peak, shows that the roads in 1942 had 24% fewer employees, 27% less locomotives and 23% less freight cars. However, the average capacity per freight car had increased 9%; freight-train car mileage was up 17%; and the average load per car rose 13%. In addition the length of the average haul had increased 34%.

The index of construction work in progress in September was estimated at 34.7% below normal. Residential construction for the past several months has been exceeding the average for the year. Large scale housing projects of several hundred or more units each have been the heaviest contributors to this volume. Of interest also is the increasing scale of non-residential construction which had been practically at a standstill. The important part of this news is that this non-residential construction involves a moderate amount of industrial building as well as projects of a public works nature. Because of the index's construction there is a slight time lag before these gains are reflected.

A sharp break in livestock prices during the week ended October 9 brought the Bureau of Labor Statistics index of wholesale commodity prices down 0.2%. In the past three months, the index has fluctuated within a range of less than one-half of 1%. At 102.8% of the 1926 average, it is only 3% higher than at this time last year. The Fairchild Retail Price Index on October 1 was unchanged at 113.1. At this level the index remains at what it was in September 1942.

SAFETY AND HEALTH

By JOHN F. DREIER
Associate Field Representative
U. S. Department of Labor

EYE INJURIES in industry have always been costly and difficult to control. Most Connecticut firms encountering this type of accident, with any degree of frequency, know that merely issuing protective glasses has not appreciably reduced the number of casualties. Supervision knows that usually the protection furnished is not used by the workman for any length of time. The average individual requiring goggles on his operation removes them for several good reasons. How to get the workman to comply voluntarily with company safety rules, particularly with reference to eye hazards, is the function of the Eye Savings Section of the National Committee for the Conservation of Manpower in War Industries. Through Mr. Alfred C. Fuller, Chairman of the Connecticut Advisory Committee, NCCMPWI, a number of Connecticut firms have already taken advantage of the free service given by the Eye Savings Section. The effectiveness of the program has already been demonstrated to local industry. Milton M. Bowman, field representative for the Section, is a forceful speaker with a well-organized presentation. Mr. Bowman will be available to Connecticut industry on request. Plants having difficulty in eliminating this troublesome problem can secure Mr. Bowman's services by writing Mr. Fuller now.

★ ★ ★

OF GENERAL INTEREST to industry is the fact that the new fall classes in Safety Engineering will begin during late October and November. These sessions, as most of you know, operate one night a week for 2½ hours, over a period of twenty weeks. Tuition is free. Eligibility rules

require only that a man must be from industry and in a position to use the knowledge acquired. Classes will be held in Waterbury, New Haven, Meriden, Middletown, Hartford, and Norwich. Further information can be secured by writing the Association or this department. Joint safety conferences were held in Hartford, Waterbury, New Haven, Middletown, Bridgeport and Stamford during September and October in cooperation with the FBI, the State Highway Safety Commission, the Connecticut Chiefs of Police Association, the Manufacturers Association of Connecticut, and the U. S. Department of Labor. The speakers on this program, Alfred C. Fuller, Edward Ingraham, James W. Hook, Channing Harwood, Alpheus Winter, and William Hoyt, spoke on "Management's Evaluation of Safety in the Industrial Field". Accident prevention and safety planning were discussed by the following safety engineers: Albert Vuillemier, Thomas M. Webb, Walter J. Racicot, Lawrence Stadler, J. D. Chalmers, and John F. Dreier. As evidence of the great interest in safety, the men attending these panels were made up of operating officials, personnel groups, safety engineers, and directors, as well as men from plant protection organizations.

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OF LOCAL INTEREST is the work being done by the Hartford Industrial Safety Council. This organization was brought into being by a group of safety engineers representing a cross section of greater Hartford industry. The Council is rapidly becoming an important factor in safety engineering circles. One of its principal functions is the pooling of safety information pertinent to industry in the area and making available to members specific data which will aid in the conservation of manpower and accident prevention. Council meetings are open to operating officials, safety engineers and others from industry interested in accident prevention. Their winter season opened officially on October 13 with a dinner at the Bond Hotel. Mr. L. J. McCarthy, Safety Director for the Remington Arms Company, Bridgeport, was the principal speaker.

This department invites questions or comments pertaining to any phase of industrial safety or health. Address all inquiries to Health and Safety Section, CONNECTICUT INDUSTRY.

PERSONNEL

By JOHN P. AHERN

Executive Assistant

GOVERNOR BALDWIN at the October 16 session of the Connecticut State War Council spoke of the pressure directed at him to relax certain of the state's labor laws relating to the employment of minors. He admitted that the war alone permitted him to listen to these importuning groups, which numbered bowling alleys, stores, and other mercantile groups.

Alfred C. Fuller, president of the Manufacturers Association of Connecticut, Inc., and a council member, expressed the view at the session that to relax the restrictions, so carefully and laboriously written by succeeding legislatures and endorsed by the Manufacturers Association of Connecticut, Inc., would be an unfortunate step and might pave the way for the reentry of "sweat shop" conditions and complimentary malpractices.

Mr. Fuller pointedly remarked "that Connecticut industry was equipped, from a health and safety viewpoint, to employ minors but did not choose to do so despite the conditions of war".

Mr. R. Leland Keeney, President of the Somersville Manufacturing Company, and another Council member concurred with Mr. Fuller in his remarks. Mr. Keeney illustrated his comments by quoting his 16 year old son, a summer employee of the Somersville woolen mill. "The cleanest and most interesting job I ever had—and for the most money" said young Mr. Keeney.

The youthful war worker had previously been engaged in farming. He said he preferred working shorter hours in the finished goods section of the mill to pitching hay.

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THIS DEPARTMENT has had several recent requests for persons qualified to organize and supervise recreation for plant employees. Labor-management committees can encourage and initiate recreational programs but administration and fulfillment represent considerable energy and effort, which necessarily cannot be offered by those otherwise engaged in productive work.

The writer, on a recent downtown shopping trip in "boom town" Hartford, was appalled by the strain and severity visual on the faces of most people.

We are all bombarded by scare headlines, well informed and misinformed radio commentators, and are "hanging on the ropes" due to government handling of our war-time lives.

Requests for recreational coordinators would indicate that management is attempting to transpose mental happiness and well being into fuller production.

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IT HAS BEEN SAID that there is nothing really new in this world of ours. Certainly industrial war training is not new. The Association has been sponsoring it for several years. Will the industrialist who does not believe that industrial training is one of the few answers to the manpower shortage problem please consult the "*Blue Print for Training*", a publication of the manufacturing committee of the Connecticut War Council.

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THIS DEPARTMENT was recently instrumental in securing an outstanding development engineer from another state to carry on research for one of our newer industries engaged in the manufacture of electronics.

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A COMPANY with a well functioning training program operating through

either a training coordinator or under the aegis of an executive delegated with that responsibility will be better equipped for the continuing "squeeze play" of Selective Service withdrawals and arid labor supply pools.

Not to be sidetracked in plans for the postwar is the same seasoned training program preparing management and employees for the rigors of a vaster competition for the peacetime consumer shelf.

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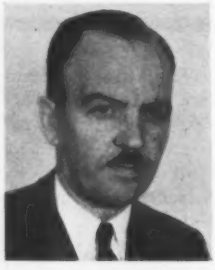
THE CONNECTICUT WAR COUNCIL recently announced the appointment of Mr. Elbert A. Pearson of Short Beach, to be manpower specialist. Mr. Pearson's duties will be to encourage and assist communities in manpower mobilization drives. In his work, it will be necessary to interview Connecticut industrialists in an endeavor to secure a correct appraisal of manpower needs. The War Council asks cooperation of executives with Mr. Pearson.



INDUSTRIAL DEVELOPMENT

By L. M. BINGHAM,

Editor and Director of Development

There was a time when Industrial Development connoted only dealings in such matters as: Including the launching of new enterprise and the location of enterprise from other states within our own borders; location of new products, inventions, factory space, and the like. Of course, it always meant far more than that, including practically everything the Association has been attempting to accomplish for many years in its "promotion and protection" of Connecticut's industries. The full meaning of the term "Industrial Development" must include the constant cultivation of good industrial relations and development of a better understanding and appreciation on the part of the public of the true function of industry as servant—not master—of the people.

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New Frontier. One of the most hopeful and statesmanlike declarations ever made by a representative of management was recently voiced by Frederick Crawford, President of Thompson Products Company, Cleveland, and President of the NAM, when he said, "The enlightened business management of this nation must and will adapt itself to this emotional age in which people are constantly thinking of human rights. Now let's make it positive through vice presidents of human relations that statesmanship in industry will create constructive leadership. . . I am asking every thinking manager to create a vice president of human relations equal to, if not above, the treasurer, production man, sales manager and engineer in importance and prestige."

If American industry follows Mr. Crawford's suggestion by selecting the "right type" of men to head up human relations activities, the machinery of production in this country is destined to produce greater rewards in employment security, goods and industrial harmony than ever before. Looking at the hills in the western section of our country, prospectors of an earlier day frequently commented, "Thar's gold in them thar hills". The most successful management prospectors of today are finding their gold in the discovery and utilization of the incentives that stimulate men to work together harmoniously at their highest level of skill and productivity. The new American, in fact, the world frontier of tomorrow, lies chiefly in this area of activity.

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Experience. After serious study and observation of the human family at work and play, many leading theologians, psychologists and management engineers have concluded that friction between individuals, groups and nations are the chief causes of all our troubles, including about 80% of all those difficulties from which industry suffers.

As one mid-western management engineer puts it, "I was called in to have a look at one sick company about two and one-half years ago whose management felt that their cost system was the actual cause of their decline in production, sales and profits. I looked over the cost and office systems, and while they could have been somewhat better, I found they would serve the purpose if the proper spirit had prevailed. After talking with a number of executives, I soon learned that the superintendent had no use for the vice president; that the treasurer literally hated the president and was trying to oust him from his job; and that this cut-throat game at the top had permeated the whole organization until it was gradually falling apart because of petty jealousies and back-biting which could only end in disaster."

"It took some months to straighten out this situation. It was done with a great majority of the supervisory and top management organization remaining intact, even though some jobs were shifted. Through frank discussions in small groups both management and workers finally came to the conclusion themselves that all were losing by playing this stupid game with each other. They learned that by applying the same logical and careful approach that a chemist or metallurgist would make if they were handling explosives (and who hasn't discovered that human beings are dynamite if you don't know how to handle them) these human frictions, which caused 80% of the trouble in business, could be eliminated."

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Peace Plans. Looking at the peace picture, it is highly encouraging to note the great material advances made under the forced-draft of war which, together with the tremendous pent-up demands for billions of dollars of capital and consumer goods, should, by all odds, produce the greatest peace-time prosperity of all time—save for lack of imagination and the courage to translate it into reality. Imagination has been the architect of all worthwhile accomplishments that have ever been created, including all types of business enterprise. No great leader in any field has ever attained prominence

(Continued on page 59)

IT'S MADE IN CONNECTICUT

EDITOR'S NOTE: This department, giving a partial list of peace-time products manufactured in Connecticut by company, seeks to facilitate contacts between prospective purchasers in domestic or foreign markets and producers. It includes only those listings ordered by Connecticut producers. Interested buyers may secure further information by writing this department.

(Advertisement)

Accounting Forms
The Baker Goodyear Co — New Haven

Accounting Machines
Underwood Elliott Fisher Co — Hartford

Adding Machines
Underwood Elliott Fisher Co — Hartford

Advertising Printing
The Case Lockwood & Brainard Co — Hartford

Advertising Specialties
The H C Cook Co 32 Beaver St — Ansonia
Scovill Manufacturing Co (Made to Order) — Waterbury
The Waterbury Button Co — Waterbury

Aero Webbing Products
Russell Mfg Co — Middletown

Air Compressors
The Spencer Turbine Co — Hartford

Aircraft Accessories
Warren McArthur Corp (Airplane Seating) — Bantam

Aircraft—Repair & Overhaul
United Airports Div United Aircraft Corp — Rentschler Field East Hartford

Aircraft Tubes
American Tube Bending Co Inc — New Haven

Airplanes
Chance-Vought Aircraft, Div United Aircraft Corp — Stratford

Aluminum Castings
Newton-New Haven Co 688 Third Avenue — West Haven

Aluminum Forgings
Scovill Manufacturing Co (small) — Waterbury

Aluminum Goods
Scovill Manufacturing Co (To Order) — Waterbury
The Waterbury Button Co — Waterbury

Aluminum—Sheets & Coils
United Smelting & Aluminum Co Inc — New Haven

Ammunition
Remington Arms Co Inc — Bridgeport

Artificial Leather
The Permatex Fabrics Corp — Jewett City
Zapon Div, Atlas Powder Co — Stamford

Asbestos
Rockbestos Products Corp (insulated wire, cable and cords) — New Haven
The Raybestos Div of Raybestos-Manhattan Inc (brake lining, clutch facings, sheet packing and wick) — Bridgeport

Assemblies, Small
The Greist Manufacturing Co — New Haven
The Wallace Barnes Co Div, Associated Spring Corp — Bristol

Auto Cable Housing
The Wiremold Company — Hartford

Automatic Control Instruments
The Bristol Co (temperature, pressure, flow, humidity, time) — Waterbury

Automobile Accessories
The Rostand Mfg Co (windshields, seats, and body hardware) — Milford
The Raybestos Div of Raybestos-Manhattan Inc (brake lining, rivets brass, clutch facings, packing) — Bridgeport

Automotive Friction Fabrics
The Russell Mfg Co — Middletown

Automotive & Service Station Equipment
Scovill Manufacturing Co (Canned Oil Dispensers) — Waterbury
The Raybestos Div of Raybestos-Manhattan Inc (brake service machinery) — Bridgeport

Bakelite Moldings
The Waterbury Button Co — Waterbury

Balls
The Abbott Ball Co (steel bearing and burnishing) — Hartford
The Hartford Steel Ball Co (steel bearing and burnishing, brass, bronze, monel, stainless, aluminum) — Hartford

Barrels
The Abbott Ball Co (burnishing and tumbling) — Hartford
The Hartford Steel Ball Co (tumbling) — Hartford

Bathroom Accessories
The Autoyre Company — Oakville
The Charles Parker Co — Meriden

Bath Tubs
Dextone Company — New Haven

Bearings
New Departure Div of General Motors (ball) — Bristol
The Fafnir Bearing Co (ball) — New Britain
Norma-Hoffmann Bearings Corp (ball and roller) — Stamford

Bells
Bevin Brothers Mfg Co — East Hampton
The Gong Bell Mfg Co — East Hampton
Sargent and Co — New Haven
The N N Hill Brass Co — East Hampton

Belting
Hartford Belting Co — Hartford
The Russell Mfg Co — Middletown
The Thames Belting Co — Norwich

Benches
The Charles Parker Co (piano) — Meriden

Bent Tubing
American Tube Bending Co Inc — New Haven

Bicycle Coaster Brakes
New Departure Div General Motors Corp — Bristol

Bicycle Sundries
New Departure Div General Motors Corp — Bristol

Binders Board
Colonial Board Company — Manchester

Biological Products
Ernst Bischoff Company Inc — Ivoryton

Blades
Capewell Manufacturing Company, Metal Saw Division, (hack saw and band saw) — Hartford

Blocks
Howard Company (cupola fire clay) — New Haven

Blower Fans
The Spencer Turbine Co — Hartford
Colonial Blower Company — Hartford

Blower Systems
Colonial Blower Company — Hartford

Boilers
The Bigelow Co — New Haven
Petroleum Heat & Power Co (domestic only) — Stamford

Bolts and Nuts
Clark Brothers Bolt Co — Milldale
The O K Tool Co Inc (T-Slot) — 33 Hull St Shelton
The Blake & Johnson Co (nuts, machine screw-bolts, stove) — Waterville

Box Board
The Lydall & Foulds Paper Co — Manchester
National Folding Box Co — New Haven
New Haven Pulp & Board Co — New Haven
Robertson Paper Box Co — Montville

Boxes—Paper—Folding
Atlantic Carton Corp — Norwich
S Curtis & Son Inc — Sandy Hook
M S Dowd Carton Co — Hartford
National Folding Box Co (paper folding) — New Haven
The Warner Brothers Company — Bridgeport
The New Haven Pulp & Board Co — New Haven
Robertson Paper Box Co — Montville

Brake Linings
Colt's Patent Fire Arms Mfg Co — Hartford
The Raybestos Div of Raybestos-Manhattan Inc (automotive and industrial) — Bridgeport
The Russell Mfg Co — Middletown

Brass and Bronze
The American Brass Co (sheet, wire rods, tubes) — Waterbury
The Bristol Brass Corp (sheet, wire, rods) — Bristol
The Miller Company (phosphor bronze and brass in sheets, strips, rolls) — Meriden
The Thinsheet Metals Co (sheets and rolls) — Waterbury

Brass Goods
Sargent and Company — New Haven
Scovill Manufacturing Co (To Order) — Waterbury

Brass Mill Products
Bridgeport Brass Co — Bridgeport
Scovill Manufacturing Co — Waterbury

Brass Stencils—Interchangeable
The Fletcher Terry Co — Box 415, Forestville

Brick—Building
The Donnelly Brick Co — New Britain

Bricks—Fire
Howard Company — New Haven

Broaching
The Hartford Special Machinery Co — Hartford

Brooms—Brushes
The Fuller Brush Co — Hartford

Buckles
The Hatheway Mfg Co (Dee Rings) — Bridgeport
The Hawie Mfg Co — Bridgeport
The G E Prentice Mfg Co — New Britain
John M Russell Mfg Co Inc — Naugatuck
B Schwanda & Sons — Staffordville
The Patent Button Co — Waterbury
The Waterbury Button Co — Waterbury

Buffing & Polishing Compositions
Apothecaries Hall Co — Waterbury
Lea Mfg Co — Waterbury

Buffing Wheels
The Williamsville Buff Mfg Co — Danielson

Buttons
B Schwanda & Sons — Staffordville
The Patent Button Co — Waterbury
Colt's Patent Fire Arms Mfg Co — Hartford
Scovill Manufacturing Co (uniform and tack fastened) — Waterbury
The Waterbury Button Co — Waterbury

Cabinets
The Charles Parker Co (medicine) — Meriden

Cable
The Wiremold Co (electric, non-metallic Sheathed) — Hartford

Cams
The Hartford Special Machinery Co — Hartford

Canvas Products
F B Skiff Inc — Hartford

Carpets and Rugs
Bigelow-Sanford Carpet Co — Thompsonville

Carpet Lining
Palmer Brothers Co — New London

Casters—Industrial
George P Clark Co — Windsor Locks

Castings
The Charles Parker Co (gray iron) — Meriden
The Bradley & Hubbard Mfg Co (grey iron, brass, bronze, aluminum) — Meriden
The Gillette-Vibber Co (grey iron, brass, bronze, aluminum, also Bronze Bushing Stock) — New London
The Sessions Foundry Co (gray iron) — Bristol
John M Russell Mfg Inc (brass, bronze and aluminum) — Naugatuck
Malleable Iron Fittings Co (malleable iron and steel) — Branford
McLagon Foundry Co (gray iron) — New Haven
Newton-New Haven Co (zinc and aluminum) — 688 Third Ave West Haven
Philbrick-Booth & Spencer Inc (grey iron) — Hartford
Scovill Manfacturing Co (brass and bronze) — Waterbury
Union Mfg Co (gray iron) — New Britain
Wilcox Crittenden & Co Inc (gray iron and brass) — Middletown

Castings—Permanent Mould
The Bradley & Hubbard Mfg Co (zinc and aluminum) — Meriden

Centrifugal Blower Wheels
The Torrington Manufacturing Co — Torrington

Chain
John M Russell Mfg Co Inc — Naugatuck

Chain—Welded and Weldless
Bridgeport Chain & Mfg Co — Bridgeport

Chains—Bead
The Bead Chain Mfg Co — Bridgeport

Chemicals
Apothecaries Hall Co — Waterbury
MacDermid Incorporated — Waterbury
American Cyanamid & Chemical Corp — Waterbury

Chromium Plating
Chromium Corp of American — Waterbury
The Chromium Process Company — Derby

Chucks & Face Plate Jaws
Union Mfg Co — New Britain

Clamps—Wood Workers
Sargent and Company — New Haven

Clay
Howard Company (Fire Howard "B" and High Temperature Dry) — New Haven

IT'S MADE IN CONNECTICUT

Cleansing Compounds
MacDermid Incorporated — Waterbury

Clutch Facings
The Russell Mfg Co — Middletown

Clutch—Friction
The Carlyle Johnson Mach Co (Johnson Expanding Ring; Multiple Disc Maxitorq) — Manchester
The Raybestos Div of Raybestos-Manhattan Inc (clutch facings—molded, woven, fabric, metallic) — Bridgeport

Comfortables
Palmer Brothers Co — New London

Cones
Sonoco Products Co (Climax-Lowell Div) (Paper) — Mystic

Consulting Engineers
The Stanley P Rockwell Co Inc (Consulting) 296 Homestead Ave — Hartford

Contract Machining
Malleable Iron Fittings Company — Branford

Contract Manufacturers
The Greist Mfg Co (metal parts and assemblies) 503 Blake St — New Haven

Copper
The American Brass Co (sheet, wire, rods, tubes) — Waterbury
The Bristol Brass Corp (sheet) — Bristol
Scovill Manufacturing Co (pipe and service tubing) — Waterbury
The Thinsheet Metals Co (sheets and rolls) — Waterbury

Copper Sheets
The New Haven Copper Co — Seymour

Copper Shingles
The New Haven Copper Co — Seymour

Copper Water Tube
Bridgeport Brass Co — Bridgeport

Cork Cots
Sonoco Products Co (Climax-Lowell Div) — Mystic

Corrugated Box Manufacturers
The Danbury Square Box Co — Danbury

Corrugated Shipping Cases
D L & D Container Corp 87 Shelton Ave — New Haven
Connecticut Corrugated Box Div Robert Gair Co Inc — Portland

Cosmetics
Northam Warren Corporation — Stamford
The J B Williams Co — Glastonbury

Cotton Batting & Jute Batting
Palmer Brothers — New London

Cotton Yarn
The Floyd Cranska Co — Moosup

Counting Devices
Veeder-Root Inc — Hartford

Cut Stone
The Dextone Co — New Haven

Cutters
The Standard Machinery Co (rotary board, single and duplex) — Mystic
The O K Tool Co Inc (inserted tooth milling) 33 Hull St — Shelton

Delayed Action Mechanisms
M H Rhodes Inc — Hartford

Dictating Machines
Dictaphone Corporation — Bridgeport
The Soundscriber Corporation — New Haven

Die Castings
Newton-New Haven Co Inc 688 Third Ave — West Haven

Die Castings (Aluminum & Zinc)
Corbin Cabinet Lock Div American Hardware Corp — New Britain

Dies
The Hoggson & Pettis Mfg Co 141 Brewery St — New Haven

Die-Heads—Self-Opening
The Eastern Machine Screw Corp Truman & Barclay Sts — New Haven
The Geometric Tool Co — New Haven

Dish Washing Machines
Colt's Patent Fire Arms Mfg Co — Hartford

Dowel Pins
The Allen Manufacturing Co. — Hartford

Draperies
Palmer Brothers Co — New London

Drop Forgings
Wilcox Crittenden & Co Inc — Middletown
The Blakeslee Forging Co — Plantsville
Atwater Mfg Co — Plantsville
Capewell Mfg Company — Hartford

Druggists' Rubber Sundries
The Seamless Rubber Company — New Haven

Edged Tools
The Collins Co (axes and other edged tools) — Collinsville

Elastic Webbing
The Russell Mfg Co — Middletown

Electric Appliances
The Silex Co 80 Pliny St — Hartford

Electric Cables
Rockbestos Products Corp (asbestos insulated) — New Haven

Electrical Conduit Fittings & Grounding Specialties
The Gillette-Vibber Company — New London

Electric Cords
Rockbestos Products Corp (asbestos insulated) — New Haven

Electric Eye Control
United Cinephone Corporation — Torrington

Electric—Commutators & Segments
The Cameron Elec Mfg Co (rewinding motors) — Ansonia

Electric Fixture Wire
Rockbestos Products Corp (asbestos insulated) — New Haven

Electric Heating Element & Units
Rockbestos Products Corp (asbestos insulated) — New Haven

Electric Panel Boards
The Plainville Electrical Products Co — Plainville

Electric Wire
Rockbestos Products Corp (asbestos insulated) — New Haven
The Whitney Blake Co (Graybar Elec Co Exclusive Distributors) — Hamden

Electrical Control Apparatus
The Trumbull Electric Mfg Co — Plainville
Colt's Patent Fire Arms Mfg Co — Hartford

Electrical Recorders
The Bristol Co — Waterbury

Electrical Goods
A C Gilbert Co — New Haven
Colt's Patent Fire Arms Mfg Co — Hartford

Electrical Switches
Colt's Patent Fire Arms Mfg Co — Hartford

Electronics
The Gray Manufacturing Company — Hartford

Electrotypes
W T Barnum & Co Inc (all classes)

Elevators — New Haven
The Eastern Machinery Co (passenger and freight) — New Haven
General Elevator Service Co Inc (freight, passenger and residence) — Hartford

Embalming Chemicals
The Embalmers' Supply Co — Westport

Engines
Wolverine Motor Works Inc (diesel stationary marine) — Bridgeport
Pratt & Whitney Aircraft Div United Aircraft Corp (aircraft) — East Hartford

Envelopes
Plimpton Mfg Co Div U S Envelope Co — Hartford
Curtis 1000 Inc — Hartford

Extractors—Tap
The Walton Co 94 Allyn St — Hartford

Eyelets
The Platt Bros & Co P O Box 1030 — Waterbury
Scovill Manufacturing Co — Waterbury
The Waterbury Button Co — Waterbury

Fasteners—Slide & Snap
The G E Prentice Mfg Co — New Britain
Sargent and Co — New Haven
Scovill Manufacturing Co (snap) — Waterbury

FELT—All Purposes
American Felt Co (Mills & Cutting Plant) — Glenville

Ferrules
The Waterbury Button Co — Waterbury

Fibre Board
The C H Norton Co — North Westchester

Finger Nail Clippers
The H C Cook Co 32 Beaver St — Ansonia

Firearms
Colt's Patent Fire Arms Mfg Co — Hartford
Remington Arms Co Inc — Bridgeport

Fire Hose
Fabrics Fire Hose Co (municipal and industrial)

Fireplace Goods — Sandy Hook
The John P Smith Co (screens) 423-33 Chapel St — New Haven
The Rostand Mfg Co — Milford

Fireproof Floor Joists
The Dextone Co — New Haven

Fishing Tackle
The Horton Mfg Co (reels, rods, lines) — Bristol
The Bevin-Wilcox Line Co (lines) — East Hampton
The H C Cook Co 32 Beaver St — Ansonia

Flashlight Cases
Scovill Manufacturing Co (metal) — Waterbury

Fluorescent Lighting Equipment
The Wiremold Company — Hartford

Forgings
Clark Brothers Bolt Co — Milldale
Heppenstall Co (all kinds and shapes) — Bridgeport
Scovill Manufacturing Co (non-ferrous) — Waterbury

Foundries
Union Mfg. Co (gray iron) — New Britain
Wilcox Crittenden & Co Inc (iron, brass, aluminum and bronze) — Middletown
The Sessions Foundry Co (iron) — Bristol

Foundry Riddles
The John P Smith Co 423-33 Chapel St — New Haven
Rolock Inc (brass, galvanized, steel) — Southport

Furnace Linings
The Mullite Refractories Co — Shelton

Furniture Pads
The Gilman Brothers Company — Gilman

Fuses
Colt's Patent Fire Arms Mfg Co — Hartford

Galvanizing & Electric Plating
The Gillette-Vibber Co. — New London

Galvanizing
Malleable Iron Fittings Co — Branford
Wilcox Crittenden & Co Inc — Middletown

Gaskets
The Raybestos Div of Raybestos-Manhattan Inc — Bridgeport

Gauges
The Bristol Co (pressure and vacuum—recording automatic control) — Waterbury

Gears—Reverse & Reduction for Motor Boats
The Snow-Nabstedt Gear Corp. — New Haven

Gears and Gear Cutting
The Hartford Special Machinery Co — Hartford
The Gray Mfg Co (Zerol Bevel) — Hartford

General Plating
The Chromium Process Co (copper, nickel, chromium and cadmium plating) — Derby

Glass Coffee Makers
The Silex Co 80 Pliny St — Hartford

Glass Cutters
The Fletcher Terry Co Box 415, — Forestville

Golf Equipment
The Horton Mfg Co (clubs, shafts, balls, bags) — Bristol

Graphite Crucibles & Products
American Crucible Co — Shelton

Greeting Cards
A D Steinbach & Sons Inc — New Haven

Grinding
The Centerless Grinding Co Inc (Precision custom grinding; centerless, cylindrical, surface, internal, and special) 19 Staples Street — Bridgeport
The Hartford Special Machinery Co (gears, threads, cams and splines) — Hartford

Hardware
Sargent and Co — New Haven
Wilcox Crittenden & Co Inc (marine heavy and industrial) — Middletown

Hardware—Trailer Cabinet
The Excelsior Hardware Co — Stamford

Hardware, Trunk & Luggage
Corbin Cabinet Lock Div American Hardware Corp — New Britain
J H Sessions & Son — Bristol

Hat Machinery
Doran Brothers Inc — Danbury

Headers
The E J Manville Machine Co — Waterbury

Heat Treating
The A F Holden Co 200 Winchester St — New Haven
The Bennett Metal Treating Co 1045 New Britain Ave — Elmwood
The Stanley P Rockwell Co Inc 296 Homestead Ave — Hartford
The Driscoll Wire Company — Shelton

Heat-Treating Equipment
The Autoyre Company — Oakville
The A F Holden Co 200 Winchester St — New Haven
The Stanley P Rockwell Co Inc (commercial) 296 Homestead Ave — Hartford
The Wallace Barnes Co Div Associated Spring Corp — Bristol

Heating Apparatus
The Miller Company (domestic oil burners and heating devices) — Meriden
Crane Company — Bridgeport

Highway Guard Rail Hardware
Malleable Iron Fittings Co — Branford

Hinges
Sargent and Company — New Haven
Homer D Bronson Company — Beacon Falls

Hoists and Trolleys
Union Mfg Company — New Britain

Hollow Screws
The Allen Manufacturing Co. — Hartford

(Advt.)

IT'S MADE IN CONNECTICUT

Hose Supporter Trimmings
The Hawie Mfg Co (So-Lo Grip Tabs) Bridgeport

Hot Water Heaters
Petroleum Heat & Power Co (Instantaneous domestic oil burner) Stamford

Industrial and Masking Tapes
The Seamless Rubber Company New Haven

Industrial Finishes
Zapon Div Atlas Powder Co Stamford

Industrial and Masking Tapes
The Seamless Rubber Company New Haven

Insecticides
American Cyanamid & Chemical Corp Waterbury

Insulated Wire Cords & Cable
The Kerite Insulated Wire & Cable Co Inc Seymour
The Whitney Blake Co (Graybar Elec Co Exclusive Distributors) Hamden

Insulation
The Gilman Brothers Co Gilman

Insulating Refractories
The Mullite Refractories Co Shelton

Japanning
J H Sessions & Son Bristol

Jointing
The Raybestos Div of Raybestos-Manhattan Inc (compressed sheet) Bridgeport

Key Blanks
Corbin Cabinet Lock Div American Hardware Corp New Britain
Sargent and Company New Haven
The Graham Mfg Co Derby

Labels
J & J Cash Inc (Woven) South Norwalk

Lacquers & Synthetic Enamels
Zapon Div Atlas Powder Co Stamford

Ladders
A W Flint Co 196 Chapel St New Haven

Lamps
The Rostand Mfg Company (brass, colonial style & brass candlesticks) Milford

Leather
Herman Roser & Sons Inc (Genuine Pigskin) Glastonbury

Leather Goods Trimmings
The G E Prentice Mfg Co New Britain

Letterheads
Lehman Brothers Inc (designers, engravers, lithographers) New Haven

Lighting Equipment
The Miller Co (Miller, Duplexalite, Ivanhoe) Meriden
The Waterbury Button Co Waterbury

Locks
Sargent and Company New Haven

Locks—Cabinet
Corbin Cabinet Lock Div American Hardware Corp New Britain
The Excelsior Hardware Co Stamford

Locks—Suit-case and Trimmings
Corbin Cabinet Lock Div American Hardware Corp New Britain
The Excelsior Hardware Co Stamford

Locks—Trunk
Corbin Cabinet Lock Div American Hardware Corp New Britain
The Excelsior Hardware Co Stamford

Locks—Zipper
The Excelsior Hardware Co Stamford

Loom-Non-Metallic
The Wiremold Company Hartford

Machine Work
The Hartford Special Machinery Co (contract work only) Hartford
The Torrington Manufacturing Co (special rolling mill machinery) Torrington

Machinery
The Hallden Machine Company (mill) Thomaston
The Torrington Manufacturing Co. (mill) Torrington
The Standard Machinery Co (bookbinders) Mystic

Machinery Dealers & Rebuilders
Botwinik Brothers New Haven
Machinery Dealers Inc New Haven
J L Lucas and Son Fairfield

Machines
Andrew C Campbell Div American Chain & Cable Co Inc (cutting & nibbling) Bridgeport
The Patent Button Company Waterbury

Machines—Automatic
The A H Nilson Mach Co (Special) Bridgeport

Machines—Forming
The A H Nilson Mach Co (four-slide wire and ribbon stock) Bridgeport

Mail Boxes, Apartment & Residential
Corbin Cabinet Lock Div American Hardware Corp New Britain

Marine Equipment
The Rostand Mfg Co (portlights, deck, cabin and sailboat hardware) Milford
Wilcox Crittenden & Co Inc Middletown

Marking Devices
The Hoggson & Pettis Mfg Co New Haven

Matrices
W T Barnum & Co Inc New Haven

Mattresses
Palmer Brothers Co New London
Waterbury Mattress Co Waterbury

Mechanical Assemblies—Small
M H Rhodes Inc Hartford

Metal Cleaners
Apothecaries Hall Co Waterbury

Metal Cleaning Machines
Colt's Patent Fire Arms Mfg Co Hartford

Metal Goods
Bridgeport Brass Co (to order) Bridgeport

Metal Novelties
The H C Cook Co 32 Beaver St Ansonia
The Waterbury Button Co Waterbury

Metal Products—Stampings
J H Sessions & Son Bristol
Scovill Manufacturing Co (Made to Order) Waterbury

Metal Specialties
The Excelsior Hardware Co Stamford
The G E Prentice Mfg Co New Britain

Metal Stampings
The Autoyre Co (small) Oakville
The Patent Button Co Waterbury
The Excelsior Hardware Co Stamford
J H Sessions & Son Bristol
The H C Cook Co 32 Beaver St Ansonia
The Greist Mfg Co 503 Blake St New Haven
The Waterbury Button Co Waterbury
Bridgeport Chain & Mfg Co Bridgeport

Microfilming
Microstat Corp of New England Inc Norwalk

Milk Bottle Carriers
The John P Smith Co 323-33 Chapel St New Haven

Millboard
The Raybestos Div of Raybestos-Manhattan Inc (asbestos) Bridgeport

Mill Supplies
Wilcox Crittenden & Co Inc Middletown

Moulded Plastic Products
The Patent Button Co Waterbury
Colt's Patent Fire Arms Mfg Co Hartford
The Watertown Mfg Co 117 Echo Lake Road Watertown

Moulds
The Hoggson & Pettis Mfg Co (steel) 141 Brewery St New Haven
The Sessions Foundry Co. (heat resisting for non ferrous metals) Bristol

Nickel Anodes
Apothecaries Hall Co Waterbury
The Seymour Mfg Co Seymour

Nickel Silver
The Seymour Mfg Co Seymour

Nuts Bolts and Washers
Clark Brothers Bolt Co Milldale

Office Equipment
Underwood Elliott Fisher Co Hartford

Oil Burners
The Silent Glow Oil Burner Corp 1477 Park St Hartford
Petroleum Heat & Power Co (domestic commercial and industrial) Stamford
The Miller Company (domestic) Meriden

Oil Burner Wick
The Raybestos Div of Raybestos-Manhattan Inc Bridgeport

Packing
The Raybestos Div of Raybestos-Manhattan Inc (rubber sheet and automotive) Bridgeport

Padlocks
Corbin Cabinet Lock Div American Hardware Corp New Britain

Paints and Enamels
The Tredennick Paint Mfg Co Meriden

Paperboard
Connecticut Corrugated Box Div Robert Gair Co Inc Portland
The New Haven Pulp & Board Co New Haven

Paper Boxes
National Folding Box Co (folding) New Haven
The New Haven Pulp & Board Co New Haven
Robertson Paper Box Co (folding) Montville
The Strouse, Adler Co New Haven
Atlantic Carton Corp (folding) Norwich
The Warner Brothers Company Bridgeport

Paper Clips
The H C Cook Co (steel) 32 Beaver St Ansonia

Paper Tubes and Cores
Sonoco Products Co (Climax-Lowell Div) Mystic

Parallel Tubes
Sonoco Products Co (Climax-Lowell Div) Mystic

Pharmaceutical Specialties
Ernst Bischoff Company Inc Ivoryton

Phosphor Bronze
The Seymour Mfg Co Seymour
The Bristol Brass Corp (sheet) Bristol
The Miller Company (sheets, strips, rolls) Meriden

Pipe
The American Brass Co (brass and copper) Waterbury
Howard Co (cement well and chimney) New Haven
Crane Company (fabricated) Bridgeport
Bridgeport Brass Co (brass & copper) Bridgeport
Scovill Manufacturing Co (copper, red brass and yellow brass) Waterbury

Pipe Fittings
Malleable Iron Fittings Co Branford

Plastics—Extruded
Extruded Plastics Inc Norwalk

Platers
The Patent Button Co Waterbury
The Plainville Electro Plating Co Plainville

Platers—Chrome
The Plainville Electro Plating Co Plainville
The Hartford Chrome Corporation Hartford

Platers' Equipment
MacDermid Incorporated Waterbury

Plumbers' Brass Goods
Bridgeport Brass Co Bridgeport
Scovill Manufacturing Co Waterbury

Plumbing Specialties
John M Russell Mfg Co Inc Naugatuck

Pole Line
Malleable Iron Fittings Co Branford

Polishing Wheels
The Williamsville Buff Mfg Co Danielson

Presses
The Standard Machinery Co (plastic molding, embossing, and die cutting) Mystic

Propellers—Aircraft
Hamilton Standard Propellers Div United Aircraft Corp East Hartford

Propeller Fan Blades
The Torrington Manufacturing Co Torrington

Punches
The Hoggson & Pettis Mfg Co (ticket & cloth) 141 Brewery St New Haven

Putty Softeners—Electrical
The Fletcher Terry Co Box 415 Forestville

Pyrometers
The Bristol Co (recording and controlling) Waterbury

Radiation-Finned Copper
The G & O Manufacturing Company New Haven

Railroad Equipment
The Rostand Mfg Co (baggage racks and mirrors for passenger cars) Milford

Rayon Yarns
The Hartford Rayon Corp Rocky Hill

Reamers
The O K Tool Co Inc (inserted tooth) 33 Hull St Shelton

Recorders
The Bristol Co (automatic controllers, temperature, pressure, flow, humidity) Waterbury

Refractories
Howard Company New Haven

Resistance Wire
The C O Jelliff Mfg Co (Nickel chromium, kanthal) Southport

Retainers
The Hartford Steel Ball Co (bicycle & automotive) Hartford

Reverse Gear—Marine
The Carlyle Johnson Mach Co Manchester

Riveting Machines
The Grant Mfg & Machine Co Bridgeport
The Raybestos Div of Raybestos-Manhattan Inc (brake service equipment) Bridgeport

Rivets
The Connecticut Manufacturing Company Waterbury
Clark Brothers Bolt Co Milldale
The Blake & Johnson Co (brass, copper and non-ferrous) Waterville
J H Sessions & Son Bristol
The Raybestos Div of Raybestos-Manhattan Inc (brass and aluminum tubular and solid copper) Bridgeport
The Raybestos Div of Raybestos-Manhattan Inc (iron) Bridgeport

Rods
The Bristol Brass Corp (brass and bronze) Bristol

Roof Coatings & Cements
Tilo Roofing Co Inc Stratford

Roofing—Built Up
Tilo Roofing Co Inc Stratford

(Advt.)

IT'S MADE IN CONNECTICUT

Rubber Chemicals
The Stamford Rubber Supply Co ("Factice" Vulcanized Vegetable Oils) Stamford

Rubberized Fabrics
The Duro-Gloss Rubber Co New Haven

Rubber Footwear
The Goodyear Rubber Co Middletown
United States Rubber Prod Inc (Keds, Kedettes, Gaytees, U S Royal Footwear) Naugatuck

Rubber Gloves
The Seamless Rubber Company New Haven

Rubbish Burners
The John P Smith Co 423-33 Chapel St New Haven

Safety Fuses
The Ensign-Bickford Co (mining & detonating) Simsbury

Saw Blades
The Capewell Mfg Co (Hack Saw, Band Saw) Hartford

Saws, Band, Metal Cutting
Atlantic Saw Mfg Co New Haven

Scales-Industrial Dial
The Kron Company Bridgeport

Scissors
The Acme Shear Company Bridgeport

Screw Machine Products
The Apex Tool Co Inc Bridgeport
The Connecticut Manufacturing Company Waterbury
Corbin Screw Div, American Hardware Corp New Britain
The Blake & Johnson Co Waterville
The Centerless Grinding Co Inc (Heat treated and ground type only)
19 Staples Street Bridgeport
The Eastern Machine Screw Corp
Truman & Barclay St New Haven
The Humason Mfg Co Forestville
The Greist Mfg Co (Up to 1¼" capacity) New Haven
Scovill Manufacturing Co Waterbury

Screws
The Blake & Johnson Co (machine) Waterville
Corbin Screw Div, American Hardware Corp New Britain
Sargent and Company New Haven
Clark Brothers Bolt Co Milldale
The Charles Parker Co (wood) Meriden
Scovill Manufacturing Co (cap and machine) Waterbury
The Connecticut Mfg Co (machine) Waterbury

Scythes
Winsted Manufacturing Co Winsted

Sewing Machines
The Greist Mfg Co (Sewing machine attachments) 503 Blake St New Haven
The Merrow Machine Co (Industrial) Hartford

Shaving Soaps
The J B Williams Co Glastonbury

Shears
The Acme Shear Co (household) Bridgeport

Sheet Metal Products
The American Brass Co (brass and copper) Waterbury

Sheet Metal Stampings
The American Buckle Co West Haven
The Patent Button Co Waterbury
J H Sessions & Son Bristol

Showcase Lighting Equipment
The Wiremold Company Hartford

Shower Stalls
Dextone Company New Haven

Signals
The H C Cook Co (for card files)
32 Beaver St Ansonia

Silks
Cheney Brothers South Manchester

Sizing and Finishing Compounds
American Cyanamid & Chemical Corp Waterbury

Smoke Stacks
The Bigelow Company (steel) New Haven

Soap
The J B Williams Co (industrial soaps, toilet soaps, shaving soaps) Glastonbury

Special Parts
The Greist Mfg Co (small machined, especially precision stampings) New Haven

Special Industrial Locking Devices
Corbin Cabinet Lock Div American Hardware Corp New Britain

Spinnings
The Gray Manufacturing Company Hartford

Sponge Rubber
The Sponge Rubber Products Co Derby

Spreads
Palmer Brothers Company New London

Spring Coiling Machines
The Torrington Manufacturing Co Torrington

Spring Units
American Chain & Cable Co Inc Bridgeport
Owen Silent Spring Co Inc (mattresses and upholstery furniture) Bridgeport

Spring Washers
The Wallace Barnes Co Div Associated Spring Corp Bristol

Springs—Coil & Flat
The Humason Mfg Co Forestville
The Wallace Barnes Co Div Associated Spring Corp Bristol

Springs—Flat
The Wallace Barnes Co Div Associated Spring Corp Bristol

Springs—Furniture
American Chain & Cable Co Inc Bridgeport
Owen Silent Spring Co Inc Bridgeport

Springs—Wire
The Wallace Barnes Co Div Associated Spring Corp Bristol
J. W. Bernston Company (Coil and Torsion) Plainville

Springs, Wire & Flat
The Autoyre Company Oakville

Stair Pads
Palmer Brothers Company New London

Stamps
The Hoggson & Pettis Mfg Co (steel)
141 Brewery St New Haven

Stampings—Small
The Greist Manufacturing Co New Haven
The Wallace Barnes Co Div Associated Spring Corp Bristol

Staples
Sargent andCompany New Haven

Steel Castings
The Hartford Electric Steel Co (carbon and alloy Steel) 540 Flatbush Ave Hartford
Malleable Iron Fittings Co Branford
Nutmeg Crucible Steel Co Branford

Steel—Cold Rolled Spring
The Wallace Barnes Co Div Associated Spring Corp Bristol

Steel—Cold Rolled Stainless
Wallingford Steel Company Wallingford

Steel—Cold Rolled Strip and Sheets
Wallingford Steel Company Wallingford

Steel Goods
Scovill Manufacturing Co (To Order) Waterbury

Steel—Magnetic
Cinaudagraph Corporation Stamford

Stereotypes
W T Barnum & Co Inc New Haven

Stop Clocks, Electric
The H C Thompson Clock Co Bristol

Studio Couches
Waterbury Mattress Co Waterbury

Super Refractories
The Mullite Refractories Co Shelton

Surface Metal Raceways & Fittings
The Wiremold Company Hartford

Surgical Dressings
The Seamless Rubber Company New Haven

Surgical Rubber Goods
The Seamless Rubber Company New Haven

Switchboards
Plainville Electrical Products Co Plainville

Switchboards Wire and Cables
Rockbestos Products Corp (asbestos insulated) New Haven

Switches
Colt's Patent Fire Arms Mfg Co Hartford

Tanks
The Bigelow Company (steel) New Haven

Tape
The Russell Mfg Co Middletown

Tap Extractors
The Walton Co 94 Allyn St Hartford

Taps, Collapsing
The Geometric Tool Co New Haven

Tarred Lines
Brownell & Co Inc Moodus

Telemetering Instruments
The Bristol Co Waterbury

Textile Machinery
The Merrow Machine Co
2814 Laurel St Hartford

Textile Mill Supplies
Ernst Bischoff Company Inc Ivoryton

Textile Processors
The Aspinook Corp (cotton) Jewett City

Thermometers
The Bristol Co (recording and automatic control) Waterbury

Thin Gauge Metals
The Thinsheet Metals Co (plain or tinned in rolls) Waterbury

Thread
Max Pollack & Co Inc Groton
The American Thread Co Willimantic
The Gardiner Hall Jr Co (cotton sewing) South Willington
Wm Johl Manufacturing Co Mystic

Threading Machines
The Grant Mfg & Machine Co (double and automatic) Bridgeport

Time Recorders
Stromberg Time Corp Thomaston

Timers, Interval
The H C Thompson Clock Co Bristol

Timing Devices and Time Switches
M H Rhodes Inc Hartford

Tinning
Wilcox Crittenden & Co Inc Middletown
The Thinsheet Metals Co (non-ferrous metals in rolls) Waterbury

Tools
The Hoggson & Pettis Mfg Co (rubber workers)
141 Brewery St New Haven
The O K Tool Co Inc (inserted tooth metal cutting) 33 Hull St Shelton

Tools, Dies & Fixtures
The Greist Mfg Co New Haven

Toys
A C Gilbert Company New Haven
The Gong Bell Co East Hampton
The N N Hill Brass Co East Hampton

Trucks—Industrial
George P Clark Co Windsor Locks

Trucks—Lift
The Excelsior Hardware Co Stamford
George P Clark Co Windsor Locks

Trucks—Skid Platforms
The Excelsior Hardware Co (lift) Stamford

Tube Bending
American Tube Bending Co Inc New Haven

Tube Clips
The H C Cook Co (for collapsible tubes)
32 Beaver St Ansonia

Tubing
The American Brass Co (brass and copper) Waterbury
Scovill Manufacturing Co (copper alloys) Waterbury

Tubing—Condenser
Scovill Manufacturing Co Waterbury

Tubing (Extruded Plastic)
Extruded Plastics Inc Norwalk

Typewriters
Underwood Elliott Fisher Co Hartford

Typewriter Ribbons
Underwood Elliott Fisher Co Hartford

Underclearer Rolls
Sonoco Products Co (Climax-Lowell Div) Mystic

Vacuum Bottles and Containers
American Thermos Bottle Co Norwich

Vacuum Cleaners
The Spencer Turbine Co Hartford

Valves—Automatic Air
Beaton & Cadwell Mfg Co New Britain

Valves—Flush
Beaton & Cadwell Mfg Co New Britain

Valves—Relief & Control
Beaton & Cadwell Mfg Co New Britain

Ventilating Systems
Colonial Blower Company Hartford

Vises
The Charles Parker Co Meriden

Washers
The Blake & Johnson Co (brass, copper & non-ferrous) Waterville
American Felt Co (felt) Glenville
Clark Brothers Bolt Co Milldale
The Sessions Foundry Co (cast iron) Bristol
J H Sessions & Son Bristol
The Raybestos Div of Raybestos-Manhattan Inc (clutch washers) Bridgeport

Watches
Benrus Watch Co 30 Cherry St Waterbury

Waterproof Dressings for Leather
The Viscol Company Stamford

Webbing
The Russell Mfg Co Middletown

Welding Rods
The Bristol Brass Corp (brass & bronze) Bristol

Wheels—Industrial
George P Clark Co Windsor Locks

Wicks
The Russell Mfg Co Middletown
The Raybestos Div of Raybestos-Manhattan Inc (oil burner wicks) Bridgeport

Wire
The Bristol Brass Corp (brass & bronze) Bristol
The Driscoll Wire Co (steel) Shelton
Hudson Wire Co Winsted Div (insulated & enamled magnet) Winsted
The Atlantic Wire Co (steel) Branford
The Platt Bros & Co (zinc wire)
P O Box 1030 Waterbury
Rockbestos Products Corp (asbestos insulated Wire) New Haven
Scovill Manufacturing Co (brass, bronze and nickel silver) Waterbury

Wire Arches and Trellis
The John P Smith Co
423-33 Chapel St New Haven

Wire Baskets
Rolock Inc (for acid, heat, degreasing) Fairfield

Wire Cable
The Bevin-Wilcox Line Co (braided) East Hampton

(Advt.)

IT'S MADE IN CONNECTICUT

Wire Cloth
The C O Jelliff Mfg Co (All metals, all meshes) Southport
The John P Smith Co
423-33 Chapel St New Haven

Wire Drawing Dies
The Waterbury Wire Die Co Waterbury

Wire Dipping Baskets
The John P Smith Co
423-33 Chapel St New Haven

Wire—Enameled Magnet
Sweet Wire Co Winsted

Wire Formings
The Autoyre Co Oakville

Wire Forms
The Humason Mfg Co Forestville
The Wallace Barnes Co Div Associated Spring Corp Bristol

Wire Goods
The Patent Button Co Waterbury
The American Buckle Co (overall trimmings) West Haven
Scovill Manufacturing Co (To Order) Waterbury

Wire Mesh
Rolock Inc (all meshes and metals) Fairfield

Wiremolding
The Wiremold Company Hartford

Wire Nuts—Solderless
The Wiremold Company Hartford

Wire Reels
The A H Nilson Mach Co Bridgeport

Wire Partitions
The John P Smith Co
423-33 Chapel St New Haven

Wire Rings
The American Buckle Co (pan handles and tinners' trimmings) West Haven

Wire Shapes
Bridgeport Chain & Mfg Co Bridgeport

Woodwork
C H Dresser & Son Inc (Mfg all kinds of woodwork) Hartford

Yarns
The Ensign-Bickford Co (jute carpet) Simsbury
Reynolds & Co (cotton, rayon) Norwich

Zinc
The Platt Bros & Co (ribbon, strip and wire)
P O Box 1030 Waterbury

Zinc Castings
Newton-New Haven Co Inc 688 Third Ave West Haven

STABILIZATION PLAN AND CONTROLLED HIRING

(Continued from page 10)

municipal employees; domestic workers; school teachers hired for vacation employment or rehired at the termination of the vacation period.

It might be pointed out, however, that the stabilization plan may be subject to further changes, if such changes are found desirable in actual practice. Already there is considerable agitation by labor organizations for the inclusion in every agreement of some provision for the protection of rights of workers transferring from one industry to another. This matter is currently under discussion. There may be others that may appear desirable as we travel along this previously uncharted road.

Controlled hiring, which has been agreed to by employers in Hartford, Waterbury, New Britain, Bristol and Meriden, and which also has become effective will, within a few weeks, result in the termination of all "at the gate" hiring in these areas with labor then being funnelled through U. S. Employment offices to industries according to priority ratings. It is expected that this new method of control will be fully effective within a period of weeks, and the staff of the U. S. Employment Service is now being augmented to meet the expected increased work load.

Already, U. S. Employment offices in central Connecticut are operating on tentative priority schedules. Complete schedules of priority ratings are now being compiled and will be used as a guide in the direction of labor to the most needed, most important, war production.

Connecticut has, in this new stabilization program, and in this voluntary controlled hiring plan, an opportunity to show that it has the inclination, the will and the ability to utilize its manpower economically and effectively. The success of both programs will depend on a triad of cooperation—government, labor and management. We want both labor and management to feel that Connecticut Manpower authorities believe in cooperation in preference to compulsion, that these three, working together, can make these progams successful.

QUERIES

(Continued from page 48)

GESTIVE ONLY AND ARE NOT MANDATORY, but they do present some interesting features the more important of which I am listing below for your information:

(1) Maximum hours. Four on school days, eight when school is not in session.

(2) Combined hours of school and work must not exceed nine a day.

(3) Weekly maximum should not exceed twenty-eight hours, when school is in session and forty-eight when schools are closed.

(4) Evening employment should not extend beyond 10 p.m.

(5) One day in seven free of employment should be allowed all students.

QUESTION 4: In certain emergency instances the War Production Board may intervene in critical War Labor Board cases. What type of case is necessary before this emergency action results?

ANSWER: Only in certain specific instances will War Labor Board cases be channeled through the Labor Production Division of the War Production Board. They are (1) those rare and unusual cases involving critical war production in which serious consequences might result from failure to settle them speedily and satisfactorily. This would, of course, mean cases where critical war products or component parts or raw materials were involved, and (2) other cases which involve vital but less urgent war production which may be deemed critical enough to justify the War Production Board in intervening on behalf of emergency action.

QUESTION 5: For the purposes of establishing the applicability of NWLB General Order 31 as amended, should employees not subject to the jurisdiction of the National War Labor Board be included for the purpose of determining whether or not an employer has 30 or fewer employees?

ANSWER: Yes, it is essential that *all* employees be counted whether or not they are subject to National War Labor Board jurisdiction.

INDUSTRIAL DEVELOPMENT

(Continued from page 54)

without it and none can retain that leadership long after it has been dimmed by the single desire to "hold fast" to the material evidence of past successes. To what extent American business now possesses the imagination to spark the necessary daring action that will give it an important part in molding this nation will be revealed in the next few critical years—yes, to a considerable extent, in the next 11 months.

SERVICE SECTION

FOR SALE—RENT—WANTED

FOR SALE—Valuable industrial property located within City of New Britain, with siding on the New York, New Haven and Hartford Railroad—Land area, assessed at $53,820.00, consists of 116,015 square feet, and buildings, assessed at $137,700.00 and contain 179,876 square feet of space—Local tax rate 29 mills—Approximately 67,000 square feet of space rented to tenants on leases which contain a six months recapture clause in the event of change of ownership and 36,000 square feet to tenants on a thirty day basis—Income from rentals amounts to $20,000.00 per year. Address R. E. 119.

FOR SALE—ELECTRIC FURNACE—250-lb. Detroit Electric Furnace, together with necessary transformers and equipment, ready for immediate operation upon installation. New Britain. Address S. E. 368.

FOR SALE—1 Curtis Steam Turbine No. 8678—KW. 100—Speed 3,600—Form E—Steam Pressure 150 lbs.—Condensing. 1 General Electric Alternating Current Generator—No. 482647—P. F. 80%, Type ATB—2-125-3600—Form T—KW 100, Volts 600, Amps 120—Speed 3600. 1 Wheeler Condenser No. 03618—Size 5 x 12 x 10. Address S. E. 353.

WANTED TO BUY— All of the outstanding shares of capital stock of a large manufacturing company having little or no present earnings—Must have invested capital of at least one million dollars, preferably several million—Your reply will be held strictly confidential by interested party. Address RE 119A.

FOR SALE—Over 7,000 new surplus parts due to cancellation of machine tool contract. V-belts, pulleys, pumps, gear works, etc. List furnished on request. Address S. E. 337.

FOR SALE—632 new motors from ¼ HP to 3 HP inclusive. All 3 phase—List furnished on request. Address S. E. 338.

FOR SALE—Remington Rand Electric Bookkeeping Machine, Model No. 85-E, with 14 registers, and all attachments. Excellent condition. Address S. E. 358.

FOR SALE—1 Smith & Mills Shaper 16", rebuilt, complete with counter-shaft and vise—1 South Bend lathe, serial number 45813, 5 foot bed, 16" swing, complete with change gears and counter shaft. Address S. E. 375.

FOR SALE—About 30 items of Machine Tools. List furnished upon request. Address S. E. 379.

FOR SALE—Wooden box shooks sufficient to make 780 complete cases of the following dimensions:—3¼" x 4" x 5" I.D., ¾" pine stock, double ends. Address S. E. 383.

FOR RENT—4000 sq. ft. of floor space on the second floor of one of Meriden's central business buildings. Elevator service and drive in facilities. Suitable for storage or manufacturing. Address R. E. 127.

FOR RENT—All or part modern brick 3 story building approximately 17,000 sq. ft.—sprinkler system—heavy mill construction—elevator—ground floor concrete suitable for garage or heavy manufacturing. Address R. E. 125.

WANTED—Large fireproof safe—Also wanted one miniature fireproof safe for home use. Address S. E. 381.

PERSONNEL

ACCOUNTANT—28 years treasurer and controller large retail house—would like to use organizational ability and experience in industry—age 52—$4,000—Hartford area. Address P. W. 892.

PRODUCTION—Lifetime of top-ranking production management—man over 50 and in excellent health—wants to contribute knowledge of plant management to production for war—American citizen, born in Switzerland—married—son an ensign in U. S. Navy. Address P. W. 940.

EXECUTIVE SMALL COMPANY—M.I.T. graduate Engineering & Bus. Admin.—45 years old, married—22 years experience sales and industrial engineering, finance, sales promotion (and postwar planning), industrial research and handling men—desires position as manager sales promotion, industrial engineering, personnel and public relations, assistant treasurer in company with postwar future—$100 minimum. Address P. W. 956.

EXECUTIVE (46) experienced in sales promotion, marketing methods and product design. Graduate engineer with general knowledge of manufacturing processes. At present with out-of-state manufacturer. Open for business connection with industrial organization where initiative and ideas for present and post-war business would be appreciated. Address P. W. 992.

COUNSELLOR OF WOMEN—17 years experience in administrative and personnel work with women and girls—A. B. Smith—also graduate work in physics, astronomy and mathematics—past year counselled and trained industrial workers. P. W. 957.

CREDIT MANAGER—Age 39, five dependents—thorough training in credits from banking and manufacturing viewpoint—could be employed as treasurer's assistant—Fairfield County. Address P. W. 958.

EMPLOYMENT MANAGER OR ASSISTANT PERSONNEL—Single, forty-six years old—excellent education—intensive experience interviewing, hiring, selecting employees for large manufacturing firm, schools and college. Address P. W. 1006.

SALES MANAGEMENT—age 54—married—entire career devoted to executive sales management, advertising and sales personnel in electric appliance field—educated at Cornell. Address P. W. 959.

PURCHASING AGENT—age 54—lifetime experience in organizing and supervising purchasing departments—last position headed war plant purchasing department of 25 people—$500 month. Address P. W. 960.

CONTROLLER-TREASURER—Past 10 years intimately associated in the application of all phases of Federal income taxes, particularly Corporation and Trusts—specialized work as a conferee in matters of Salary Stabilization—previous 20 years executive in banking, finance and investment, including supervision of personnel, accounting and methods—age 54—salary $6,000. Address P. W. 962.

MATURE EXECUTIVE—Columbia graduate, B. S., majored Mechanics, Physics, Electricity and Economics—many years experience in organization, management, research, production and sales—can take complete charge or act as assistant—desire is to locate in New England with small or medium size concern—salary dependent on locality and responsibilities—age 51. Address P. W. 963.

ELECTRICAL ENGINEER—B. S. Yale—Age 43, married—Seventeen years experience in appraisal and valuation of electric plant property—Cost analysis and some time study in connection with original cost—Experience could be used in production cost analysis and control—Seeking permanent position with utility or manufacturing company in Connecticut. Address P. W. 967.

MANUFACTURING SUPERVISOR—Age 54—Practical experience in many phases of plant operation—Have general knowledge of manufacturing plants in Hartford area—Twenty years as production manager and director of Chemical Research. Address P. W. 968.

PERSONNEL MANAGER OR ASSISTANT—Age 38, married, 2 children, extensive experience handling all classes of people—Well versed on state, federal labor regulations—Investigative experience as well as administrative background dealing with plant organization in fire, safety and protective fields—Qualified for personnel manager small factory or assistant large plant—Hartford-Waterbury area—$3,200 minimum. Address P. W. 973.

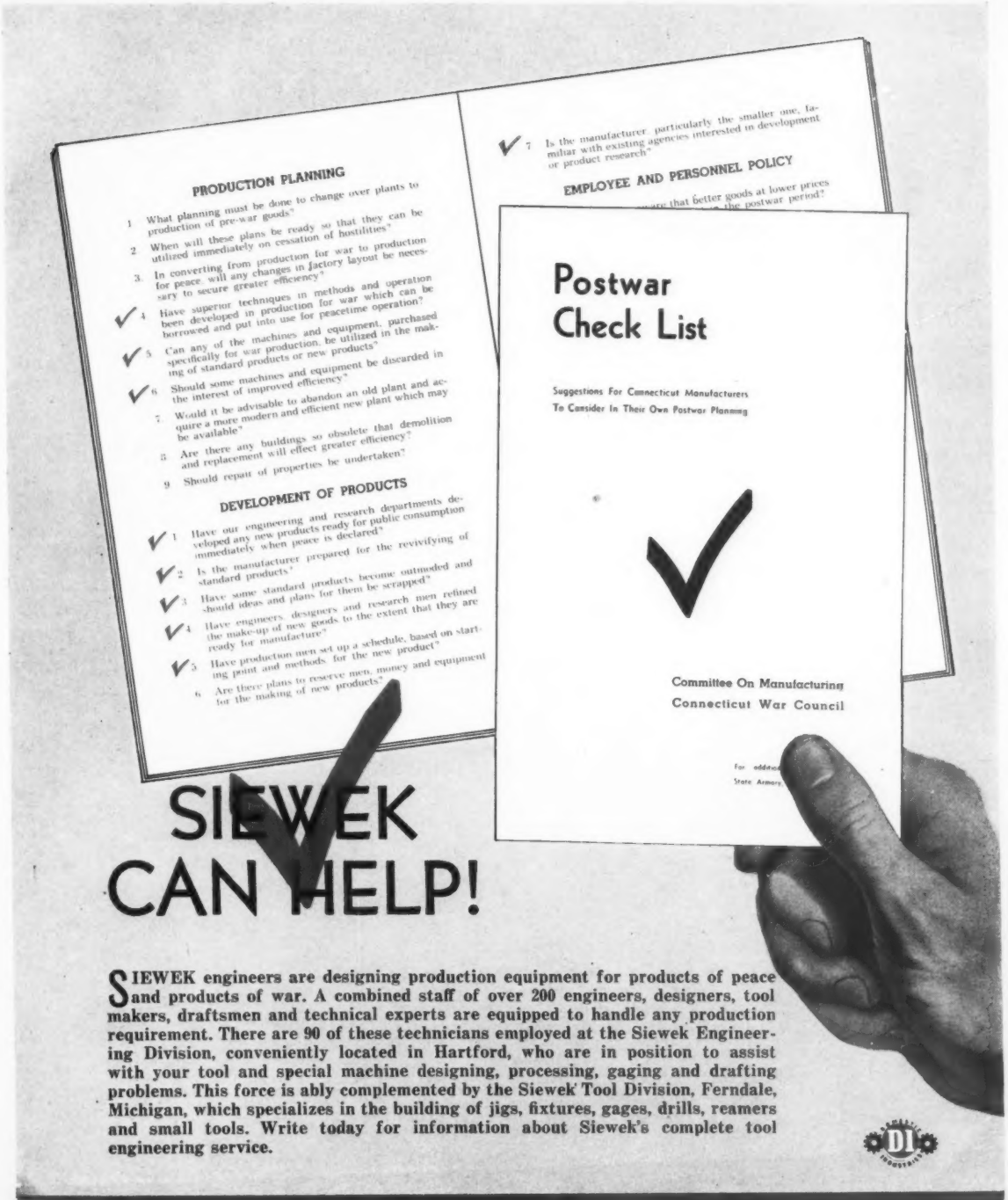
PLANT SUPERVISOR—Licensed architect with long experience in engineering and maintenance of industrial properties—familiar with electrical installations, heating and power equipment, machinery, plumbing, construction and maintenance—Age 44. Address P. W. 1003.

PUBLICITY, EDITING, ADVERTISING—college woman, 10 years' experience public relations in fund-raising firm NYC; editor, juvenile magazine; 6 years account executive, advertising agency, handling copy, layouts, production. Interested in war work near Sandy Hook. Used to earning $4,500. Address P. W. 995.

EXECUTIVE SALES MANAGEMENT—experienced in intangibles—22 years in sales and sales promotion of insurance and commercial banking—both home office and branch management—age 48—married—educated Lafayette College. Address P. W. 974.

PERSONNEL MANAGER—All phases of Personnel Management and Administration, including selection, training and placement—Wage scales and incentive payments, job classification, group and compensation insurance—Broad comprehensive knowledge, based on actual experience, WLB, WMC and Selective Service programs—Age 37, married, 4F due to faulty vision. Address P. W. 977.

CONTROLLED MATERIALS PLAN—WPB officer with extensive knowledge in this field seeking position in private industry—previous 7 years in sales-contact work for large advertising company catering to industry—age 33, married, one child—Draft status 4F. Address P. W. 978.


PRODUCTION PLANNING
1 What planning must be done to change over plants to production of pre-war goods?
2 When will these plans be ready so that they can be utilized immediately on cessation of hostilities?
3 In converting from production for war to production for peace, will any changes in factory layout be necessary to secure greater efficiency?
✓ 4 Have superior techniques in methods and operation been developed in production for war which can be borrowed and put into use for peacetime operation?
✓ 5 Can any of the machines and equipment, purchased specifically for war production, be utilized in the making of standard products or new products?
✓ 6 Should some machines and equipment be discarded in the interest of improved efficiency?
7 Would it be advisable to abandon an old plant and acquire a more modern and efficient new plant which may be available?
8 Are there any buildings so obsolete that demolition and replacement will effect greater efficiency?
9 Should repair of properties be undertaken?
DEVELOPMENT OF PRODUCTS
✓ 1 Have our engineering and research departments developed any new products ready for public consumption immediately when peace is declared?
✓ 2 Is the manufacturer prepared for the revivifying of standard products?
✓ 3 Have some standard products become outmoded and should ideas and plans for them be scrapped?
✓ 4 Have engineers, designers and research men refined the make-up of new goods to the extent that they are ready for manufacture?
✓ 5 Have production men set up a schedule, based on starting point and methods, for the new product?
6 Are there plans to reserve men, money and equipment for the making of new products?
✓ 7 Is the manufacturer, particularly the smaller one, familiar with existing agencies interested in development or product research?
EMPLOYEE AND PERSONNEL POLICY
Postwar
Check List
Suggestions For Connecticut Manufacturers
To Consider In Their Own Postwar Planning
Committee On Manufacturing
Connecticut War Council

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